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ELECTRONICS PRINCIPLES AVIONICS AEROSPACE GROUND EQUIPMENT (AGE--ETC(U)
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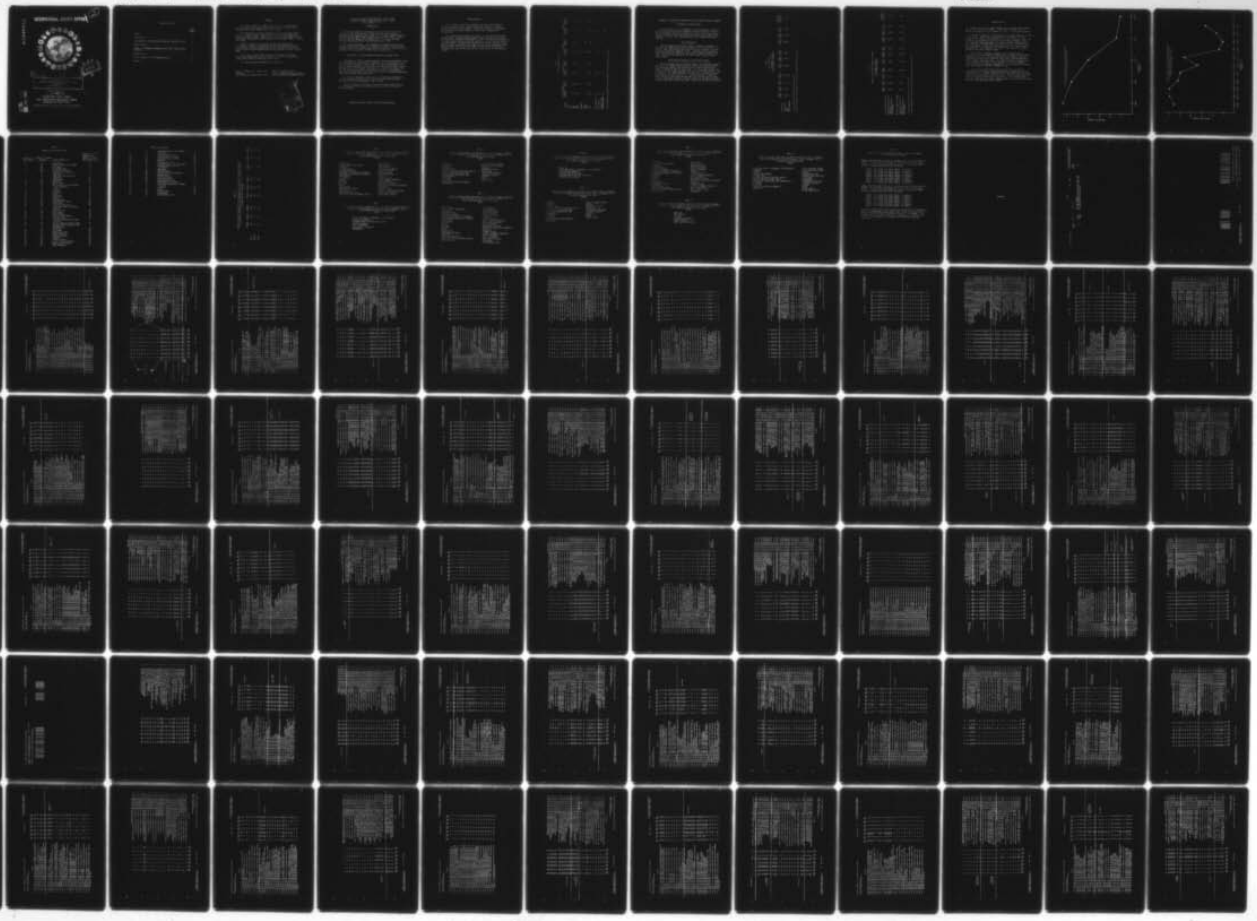

OCCUPATIONAL SURVEY REPORT

(2)

B. S.

(6) ELECTRONICS PRINCIPLES
AVIONICS AEROSPACE GROUND EQUIPMENT (AGE)
CAREER LADDER
AFSCS 326X0A, B, C, D.

(14) AFPT-90-326-222
27 DECEMBER 1976

(12) 136p.

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

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(1) Rept. for 1 May - 30 Aug 76.

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TABLE 4

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PREFACE

This report presents a summary of the results of a detailed Air Force Electronics Principles survey of the Avionics Aerospace Ground Equipment specialties, 326X0A, B, C, and D shreds.

The Electronics Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Major O'Connor and Mr. Guy B. Cole. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF
Commander
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USAF Occupational Measurement Center

ELECTRONICS PRINCIPLES OCCUPATIONAL SURVEY REPORT
AVIONICS AEROSPACE GROUND EQUIPMENT CAREER LADDER
AFSCs 326X0A, B, C, D

INTRODUCTION

This report summarizes the results of the administration of the Electronics Principles survey to airmen assigned to the Avionics Aerospace Ground Equipment (AGE) specialties, including 326X0A, Manually Operated Avionics AGE; 326X0B, Automatic Avionics AGE; 326X0C, F/RF-4 Peculiar AGE; and 326X0D, A-7D Avionics AGE. The survey data were collected during the period 1 May through 30 August 1976.

This report describes: (1) development and administration of the survey instrument; (2) summaries of background information which reflect the population of the survey sample; and (3) electronics principles used by personnel at various points in their career progression.

DEVELOPMENT OF THE ELECTRONICS PRINCIPLES INVENTORY (EPI)

Development of the EPI involved personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as having expertise in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the survey instrument. Ten electronics experts from the five ATC training centers, who averaged 12 years of maintenance experience and four years of electronics principles instruction experience, spent several weeks refining the EPI.

In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The EPI contained 1,257 items in 62 subject matter areas covering all electronics principles training given at the five ATC technical training centers.

ADMINISTRATION

The Electronics Principles Inventory (EPI) was administered in person or by mail to 1,097 airmen worldwide assigned to all shreds of the three 326XX career ladders. This total represents approximately 31 percent of the airmen assigned to these career ladders, as of 30 June 1976.

This report mainly presents the results of the data from the 326X0 career ladder. Two other separate reports have been written to cover the 326X1 and the 326X2 career ladders. Table 1 reflects the distribution of assigned personnel and percentage sampled in each of the four shreds of the 326X0 ladder. Responses were received from over 25 percent of each shred of 326X0 except for the C shred. In this shred, only three returns were received. Due to the small number of returns for C shred, any inferences derived from the data for this shred should be reviewed with caution.

TABLE 1

326X0 COMMAND REPRESENTATION

COMMAND	326X0A		326X0B		326X0C*		326X0D	
	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
CONUS								
ADC	2	-	-	-	-	-	-	-
ATC	13	22	17	32	11	33	13	21
MAC	9	3	8	3	-	-	-	-
SAC	9	6	11	11	2	34	-	-
AFSC	1	-	-	-	-	-	-	-
TAC	59	63	57	47	38	-	87	79
OVERSEAS								
AAC	-	-	-	-	3	33	-	-
USAFE	7	6	7	7	29	-	-	-
PACAF	-	-	-	-	17	-	-	-
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%
TOTAL ASSIGNED	140		262		226		98	
TOTAL SAMPLE	36		70		3		33	
PERCENT OF TOTAL ASSIGNED SAMPLED	26%		27%		1%		34%	

* Survey sample too limited for signifcant results--only 3 returns from this shred.

SUMMARY OF BACKGROUND INFORMATION FOR 326X0 CAREER LADDER PERSONNEL

Assignment to Career Ladder

Over 60 percent of the respondents in each shred were assigned to their present specialty after completing resident technical training. Of the remainder, most were retrained from another specialty, with a few being reclassified or converted from another career ladder without technical training. None reported direct duty assignment from basic training.

Job Satisfaction

Table 2 compares Avionics AGE (326X0) personnel with members in the 326X1 and 326X2 career ladders in terms of job satisfaction. Also shown is data reflecting the job satisfaction of incumbents in other Air Force specialties surveyed in 1975. Personnel in the A shred of 326X0, the D shred of 326X1, and the C shred of 326X2 find their jobs less interesting than members of the other shreds within the same career ladder.

Perceived Utilization of Talents and Training

Table 3 presents the perceived utilization of talents and training factors for the 326X0 shreds, the 326X1 shreds, and the 326X2 shreds. For comparison purposes, the average results from 35 other career ladders surveyed in 1975 are also given. The survey data reflect that 42 percent of the 326X0A personnel, 45 percent of 326X1D personnel, and 41 percent of the 326X2C personnel felt that their training was being utilized very little or not at all. A similar pattern is noted for these same AFSCs when comparing how their job utilizes their talents. A highly significant finding is that 63 percent of the 326X2C personnel perceive that their job utilizes their talents very little or not at all.

TABLE 2

JOB SATISFACTION

TOTAL SAMPLE BY SHRED
(PERCENT MEMBERS RESPONDING)

I FIND MY JOB:	326X0A (N=36)	326X0B (N=70)	326X0C* (N=3)	326X0D (N=33)	326X1C (N=70)	326X1D (N=147)	326X1E (N=87)	326X2A (N=164)	326X2B (N=146)	326X2C (N=155)	OTHER AF SPECIALTIES (N=21,107) **
INTERESTING	59	80	67	70	74	54	71	59	57	35	69
SO-SO	22	7	-	9	10	23	18	21	20	26	15
DULL	19	13	33	18	16	23	11	19	21	39	16
NOT RESPONDING	-	-	-	3	-	-	-	1	2	-	

* Survey sample too limited for significant results

** Based on responses from incumbents in 35 other career ladders surveyed during 1975.

TABLE 3

PERCEIVED UTILIZATION OF TALENTS AND TRAINING

TOTAL SAMPLE BY SHRED
(PERCENT MEMBERS RESPONDING)

	326X0A (N=36)	326X0B (N=70)	326X0C* (N=3)	326X0D (N=33)	326X1C (N=70)	326X1D (N=147)	326X1E (N=87)	326X2A (N=164)	326X2B (N=146)	326X2C (N=155)	OTHER AF SPECIALTIES (N=21,107) **
MY JOB UTILIZES MY TALENTS:											
VERY LITTLE OR NOT AT ALL	33	16	33	24	27	42	24	40	37	63	26
FAIRLY WELL	28	39	-	39	40	34	29	30	33	25	26
QUITE WELL TO PERFECTLY	39	45	67	37	33	22	46	30	29	12	48
NOT RESPONDING	-	-	-	-	-	2	1	-	1	-	-
MY JOB UTILIZES MY TRAINING:											
VERY LITTLE OR NOT AT ALL	42	16	33	30	33	45	25	25	27	41	26
FAIRLY WELL	17	33	-	33	33	33	33	38	38	39	26
QUITE WELL TO PERFECTLY	41	51	67	34	34	21	42	35	33	19	48
NOT RESPONDING	-	-	-	3	-	1	-	2	2	1	-

* Survey sample too limited for significant results

** Based on responses from incumbents in 35 other career ladders surveyed during 1975.

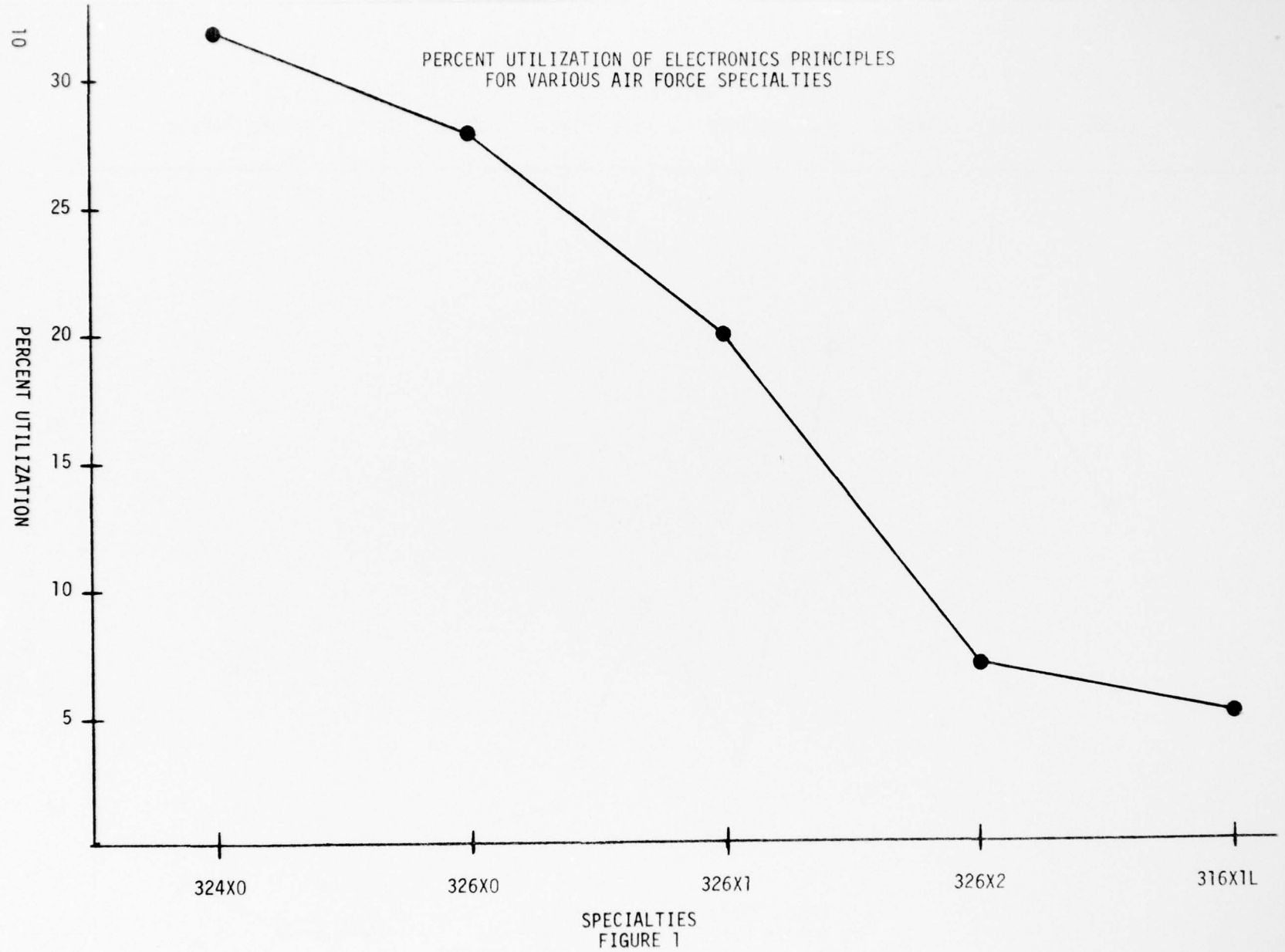
GENERAL RESULTS

Figure 1 presents the overall results for the 326XX career ladders. Data for two other career ladders, 324X0 (PMEL) and 316X1L (Missile Systems Maintenance), are also shown on Figure 1 for comparison purposes.

There were a total of 1,257 electronics principles questions or items in the survey. 326X0 career ladder personnel responded "Yes" to an average of 352 items or to 28 percent of the total number of items. The 28 percent is an average figure for all the shreds of 326X0. Figure 1 also shows that 326X1 personnel (all shreds averaged) responded "Yes" to an average of 255 electronics principles items or to 20 percent of the total number of items, while 326X2 personnel (all shreds averaged) responded "Yes" to an average of 83 items in the survey or to seven percent of the total number of items.

These results, therefore, indicate a wide range of usage of electronics principles among the 326X0, 326X1, and 326X2 career ladders. In addition, Figure 1, shows how the 326XX career ladders compare in field utilization of basic electronics principles with the two other career ladders, 324X0 and 316X1L. AFS 324X0 personnel responded "Yes" to an average of 401 items or to 32 percent of the total number of items, while 316X1L personnel responded "Yes" to an average of 58 items or to five percent of the total number of items.

Figure 2 shows the percent field utilization of electronics principles for all shreds of 326XX and for 32692 (Integrated Avionics Superintendent). As shown, 326X0B and 326X0C personnel have the highest utilization of electronics principles, while 326X2C personnel show the lowest utilization of electronics principles. It is interesting to note that 32692 personnel show a higher percent utilization of electronics principles than does any shred of 326X2.


PERCENT UTILIZATION OF ELECTRONICS PRINCIPLES
FOR VARIOUS AIR FORCE SPECIALTIES
10
30
25
20
15
10
5
PERCENT UTILIZATION
324X0
326X0
326X1
326X2
316X1L
SPECIALTIES
FIGURE 1

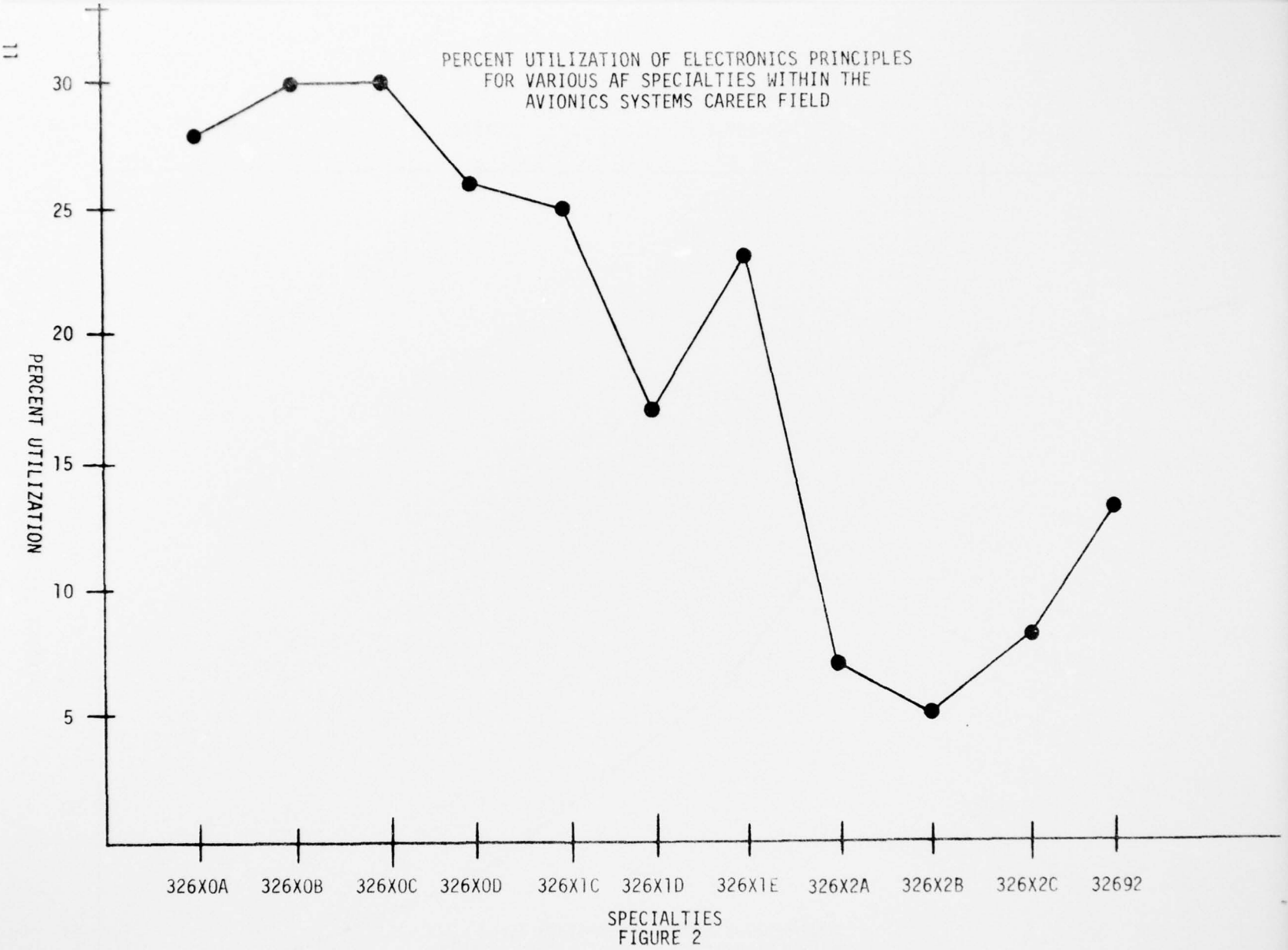

PERCENT UTILIZATION OF ELECTRONICS PRINCIPLES
FOR VARIOUS AF SPECIALTIES WITHIN THE
AVIONICS SYSTEMS CAREER FIELD
PERCENT UTILIZATION
30
25
20
15
10
5
326X0A
326X0B
326X0C
326X0D
326X1C
326X1D
326X1E
326X2A
326X2B
326X2C
32692
SPECIALTIES

FIGURE 2

IN DEPTH ANALYSIS OF THE GENERAL RESULTS

Table 4 is a general reference table and is a useful tool in applying the results of the data. It lists the 62 subject areas of electronics principles in the sequence or order of presentation both in the survey and in the computer results (the Appendix). Table 4 is useful in applying the information given in Tables 6 through 14. The computer results given in the Appendix are not numbered 1 through 62, but instead have the computer notation A1 through U2, as given in Table 4. Also, each of the subject areas has a certain number of questions or items which require a response. For example, it can be seen from Table 4 that the "Mathematics" subject area, subject number 1 (computer notation A1), has 14 questions or items.

Table 5 gives the number of subject areas, out of a possible 62, in which various percentages of persons responded "Yes" to at least one question or item in any subject area. For example, 50 percent or more 32650A personnel responded "Yes" to at least one item or question in each of 36 subject areas, whereas 30 percent to 49 percent of the 32650A responded "Yes" to at least one item in each of seven subject areas. The 5-skill level for each AFS is used because of the large sample of respondents for that skill level and because the data revealed that the 5-skill level represented a typical cross-section for all skill levels within each AFS. Data for 32650C are not presented because of an insufficient sample.

A significant finding, for the 326X0 career ladder, derived from Table 5, is that the maximum number of subject areas receiving 50 percent or more "Yes" responses for the 5-skill level of any shred of 326X0 was 39 (out of a possible 62) in the B shred. An overall observation is that there is a significant difference in the number of subject areas receiving "Yes" responses among the shreds of 32650, 32651, and 32652 at the 50 percent or more members responding level.

Tables 6 through 14 give the specific subject areas for each of the 32650 shreds listed in Table 5.

In order to find the percentage of "Yes" responses for each question or item in a particular subject area, use Table 4, Table 15, and the Appendix. For example, if one were interested in finding out what the percentage of "Yes" responses was for each question or item in the "Mathematics" subject area for 32650A personnel, the answer can be determined by looking at Table 15 and seeing that 32650A is identified in the computer printout (the Appendix) as SPC008, a column heading in the Appendix. Table 4 indicates that "Mathematics" is the first subject area and has the computer printout (the Appendix) designation

of A1. Thus, on page 4 of the Appendix, items 1 through 14 (designated as A1-01 through A1-14) are read under the column designated as SPC008. It can be seen from page 4 that 14 percent of the sample of 32650A indicated that they have to "Find the Square Root of a Quantity" (item A1-04).

Large patterns of "Yes" responses can be immediately determined by scanning through the Appendix. For example, page 6 of the Appendix shows a high pattern of "Yes" responses for all groups (SPC006 through SPC013) for items 60 through 74 or computer notation B1-09 through B3-08; whereas, for items 75 through 87 (B3-09 through B3-21), the pattern of "Yes" responses is low.

TABLE 4

Summary of EPI Subject Areas

Sequence of Subject Areas	Computer Printout Notation	Subject Area Title	Number of Possible Responses or Number of Items in each Subject Area
1	A1	Mathematics	14
2	A2	Direct Current and Voltage	9
3	A3	Resistance	28
4	B1	Multimeter Uses	9
5	B2	Alternating Current	6
6	B3	Inductors and Inductive Reactance	25
7	C1	Capacitors and Capacitive Reactance	36
8	C2	Transformers	43
9	C3	Magnetism	14
10	D1	RCL Circuits	44
11	D2	Series and Parallel Resonance (Time Constants)	10
12	D3	Filters	22
13	E1	Coupling	12
14	E2	Soldering	22
15	E3	Relays	19
16	F1	Microphones	13
17	F2	Speakers	15
18	F3	Oscilloscopes	12
19	G1	Semiconductor Diodes	50
20	G2	Transistors	24
21	G3	Transistor Amplifiers	49
22	H1	Solid-State Special Purpose Devices	6
23	H2	Power Supplies	29
24	H3	Oscillators	27
25	I1	Multivibrators	16
26	I2	Limiters and Clampers	10
27	I3	Electron Tubes	44
28	J1	Electron Tube Amplifiers and Circuits	7
29	J2	Special Purpose Electron Tubes	16
30	J3	Heterodyning, Modulation, and Demodulation	6
31	K1	AM Systems	28
32	K2	FM Systems	19
33	K3	Numbering Systems	10
34	L1	Logic Functions	13
35	L2	Boolean Equations	25
36	L3	Counters	24
37	M1	Timing Circuits	12
38	M2	Use of Signal Generators	10
39	M3	Motors and Generators	29
40	N1	Meter Movements	10

TABLE 4 (Continued)

41	N2	Saturable Reactors and Magnetic Amplifiers	16
42	N3	Waveshaping Circuits	11
43	O1	Single Sideband Systems	30
44	O2	Pulse Modulation Systems	39
45	O3	Antennas	39
46	P1	Transmission Lines	31
47	P2	Waveguides and Cavity Resonators	50
48	P3	Microwave Amplifiers and Oscillators	76
49	Q1	Registers	7
50	Q2	Storage Devices	9
51	Q3	Digital to Analog Converters	14
52	R1	Phantastrons	1
53	R2	Schmitt Triggers	3
54	R3	Cable Fabrication	2
55	S1	Input/Output Devices	3
56	S2	Photo Sensitive Devices	1
57	S3	Synchronous Vibrations (Chopper Circuits)	9
58	T1	Infrared	27
59	T2	Lasers	34
60	T3	Display Tubes	14
61	U1	Programming	21
62	U2	DB and Power Ratios	3

TABLE 5

NUMBER OF SUBJECT AREAS, OUT OF A POSSIBLE 62, IN WHICH A SPECIFIED PERCENT OF PERSONS IN EACH AFSC (50% OR MORE, 30 TO 49%, OR 0 TO 29%) MARKED AT LEAST ONE "YES" RESPONSE.

	32650A	32650B	32650D	32651C	32651D	32651E	32652A	32652B	32652C
50%+	36	39	34	30	20	33	9	8	15
30-49%	7	6	6	14	16	9	7	6	4
0-29%	19	17	22	18	26	20	46	48	43

TABLE 6

THIRTY-SIX SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32650A

MATHEMATICS
DIRECT CURRENT AND VOLTAGE
RESISTANCE
MULTIMETER USES
ALTERNATING CURRENT
INDUCTORS AND INDUCTIVE REACTANCE
CAPACITORS AND CAPACITIVE REACTANCE
TRANSFORMERS
RCL CIRCUITS
FILTERS
COUPLING
SOLDERING
RELAYS
OSCILLOSCOPES
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
SOLID-STATE SPECIAL PURPOSE DEVICES
POWER SUPPLIES
OSCILLATORS
MULTIVIBRATORS
LIMITERS AND CLAMPERS
NUMBERING SYSTEMS
LOGIC FUNCTIONS
BOOLEAN EQUATIONS
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
METER MOVEMENTS
WAVESHAPING CIRCUITS
WAVEGUIDES AND CAVITY RESONATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
INPUT-OUTPUT DEVICES
DB AND POWER RATIOS

TABLE 7

SEVEN SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA
32650A

SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
MOTORS AND GENERATORS
MICROWAVE AMPLIFIERS AND OSCILLATORS
SCHMITT TRIGGERS
CABLE FABRICATION
PHOTO SENSITIVE DEVICES
PROGRAMMING

TABLE 8

NINETEEN SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 29 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO ANY QUESTIONS WITHIN EACH AREA.
32650A

MAGNETISM
MICROPHONES
SPEAKERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
SPECIAL PURPOSE ELECTRON TUBES
HETERODYNING, MODULATION, AND DEMODULATION
AM SYSTEMS
FM SYSTEMS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
SINGLE SIDEBAND SYSTEMS
PULSE MODULATION SYSTEMS
ANTENNAS
TRANSMISSION LINES
PHANTASTRONS
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
INFRARED
LASERS
DISPLAY TUBES

TABLE 9

THIRTY-NINE SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32650B

MATHEMATICS
DIRECT CURRENT AND VOLTAGE
RESISTANCE
MULTIMETER USES
ALTERNATING CURRENT
INDUCTORS AND INDUCTIVE REACTANCE
CAPACITORS AND CAPACITIVE REACTANCE
TRANSFORMERS
RCL CIRCUITS
FILTERS
COUPLING
SOLDERING
RELAYS
OSCILLOSCOPES
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
SOLID-STATE SPECIAL PURPOSE DEVICES
POWER SUPPLIES
OSCILLATORS
MULTIVIBRATORS
NUMBERING SYSTEMS
LOGIC FUNCTIONS
BOOLEAN EQUATIONS
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
MOTORS AND GENERATORS
METER MOVEMENTS
WAVESHAPING CIRCUITS
WAVEGUIDES AND CAVITY RESONATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
SCHMITT TRIGGERS
CABLE FABRICATION
INPUT-OUTPUT DEVICES
PROGRAMMING
DB AND POWER RATIOS

TABLE 10

SIX SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS.
THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO
ONE OR MORE QUESTIONS WITHIN EACH AREA.
32650B

MAGNETISM
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
LIMITERS AND CLAMPERS
PULSE MODULATION SYSTEMS
MICROWAVE AMPLIFIERS AND OSCILLATORS
PHOTO SENSITIVE DEVICES

TABLE 11

SEVENTEEN SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS.
THAT IS, 29 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO
ANY QUESTION WITHIN EACH AREA.
32650B

MICROPHONES
SPEAKERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
SPECIAL PURPOSE ELECTRON TUBES
HETERODYNING, MODULATION, AND DEMODULATION
AM SYSTEMS
FM SYSTEMS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
SINGLE SIDEBAND SYSTEMS
ANTENNAS
TRANSMISSION LINES
PHANTASTRONS
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
INFRARED
LASERS
DISPLAY TUBES

TABLE 12

THIRTY-FOUR SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS.
THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO
ONE OR MORE QUESTIONS WITHIN EACH AREA.
32650D

MATHEMATICS
DIRECT CURRENT AND VOLTAGE
RESISTANCE
MULTIMETER USES
ALTERNATING CURRENT
INDUCTORS AND INDUCTIVE REACTANCE
CAPACITORS AND CAPACITIVE REACTANCE
TRANSFORMERS
FILTERS
SOLDERING
RELAYS
OSCILLOSCOPES
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
SOLID-STATE SPECIAL PURPOSE DEVICES
POWER SUPPLIES
OSCILLATORS
MULTIVIBRATORS
NUMBERING SYSTEMS
LOGIC FUNCTIONS
BOOLEAN EQUATIONS
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
METER MOVEMENTS
WAVESHAPING CIRCUITS
WAVEGUIDES AND CAVITY RESONATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
CABLE FABRICATION
INPUT-OUTPUT DEVICES
PROGRAMMING

TABLE 13

SIX SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS.
THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO
ONE OR MORE QUESTIONS WITHIN EACH AREA.
32650D

MAGNETISM
RCL CIRCUITS
COUPLING
MOTORS AND GENERATORS
SCHMITT TRIGERS
PHOTO SENSITIVE DEVICES

TABLE 14

TWENTY-TWO SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 29 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO ANY QUESTION WITHIN EACH AREA.
32650D

SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
MICROPHONES
SPEAKERS
LIMITERS AND CLAMPERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
SPECIAL PURPOSE ELECTRON TUBES
HETERODYNING, MODULATION, AND DEMODULATION
AM SYSTEMS
FM SYSTEMS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
SINGLE SIDEBAND SYSTEMS
PULSE MODULATION SYSTEMS
ANTENNAS
TRANSMISSION LINES
MICROWAVE AMPLIFIERS AND OSCILLATORS
PHANTASTRONS
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
INFRARED
LASERS
DISPLAY TUBES
DB AND POWER RATIOS

TABLE 15

READING THE COMPUTER PRINTOUTS (GPSM1B, GPSM1C, AND JOBINV)
WHICH ARE IN THE APPENDIX

GPSM1B (Appendix pages 3 to 46) is a summary which gives the percent of members of a group which responded "Yes" to the items in the survey booklet. At the top of each column of numbers on any page of GPSM1B are the following Group Identifiers and Groups:

SPC006 - All airmen with DAFSC 326X0A (36 members)
SPC007 - All airmen with DAFSC 32630A (5 members)
SPC008 - All airmen with DAFSC 32650A (21 members)
SPC009 - All airmen with DAFSC 32670A (10 members)
SPC010 - All airmen with DAFSC 326X0B (70 members)
SPC011 - All airmen with DAFSC 32630B (6 members)
SPC012 - All airmen with DAFSC 32650B (45 members)
SPC013 - All airmen with DAFSC 32670B (19 members)

GPSM1C (Appendix pages 49 to 91) is a summary which gives the percent of members of a group which responded "Yes" to the items in the survey booklet. At the top of each column of numbers on any page of GPSM1C are the following Group Identifiers and Groups:

SPC014 - All airmen with DAFSC 326X0C (3 members)
SPC016 - All airmen with DAFSC 32650C (2 members)
SPC017 - All airmen with DAFSC 32670C (1 member)
SPC018 - All airmen with DAFSC 326X0D (33 members)
SPC019 - All airmen with DAFSC 32630D (1 member)
SPC020 - All airmen with DAFSC 32650D (24 members)
SPC021 - All airmen with DAFSC 32670D (8 members)

To conserve space, some of the items have been abbreviated in GPSM1B and GPSM1C in the Appendix. Each item has been listed in its entirety in the Job Inventory (JOBINV) beginning on page 92 of the Appendix. For example, Task A1-01, page 4, GPSM1B, is incomplete. In order to find the complete statement, turn to page 92 of the Appendix and read item A1-01.

APPENDIX

APPENDIX

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AF HUMAN RESOURCES LABORATORY
AIR FORCE SYSTEMS COMMAND

PERCENT MEMBERS ANSWERING 'YES' TO EPI ITEMS BY DAFSC GROUPS IN THE 326X0/92 CAREER LADDER.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY = SPC006	ALL AMN 326X0A	CONTAINING 36 MEMBERS.
GROUP IDENTITY = SPC007	ALL AMN 32630A	CONTAINING 5 MEMBERS.
GROUP IDENTITY = SPC008	ALL AMN 32650A	CONTAINING 21 MEMBERS.
GROUP IDENTITY = SPC009	ALL AMN 32670A	CONTAINING 10 MEMBERS.
GROUP IDENTITY = SPC010	ALL AMN 326X0B	CONTAINING 70 MEMBERS.
GROUP IDENTITY = SPC011	ALL AMN 32630B	CONTAINING 6 MEMBERS.
GROUP IDENTITY = SPC012	ALL AMN 32650B	CONTAINING 45 MEMBERS.
GROUP IDENTITY = SPC013	ALL AMN 32670B	CONTAINING 19 MEMBERS.

DUTY GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DUTY	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
A	MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE	100	100	100	100	97	100	98	95
B	MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE	100	100	100	100	99	100	98	100
C	CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM	97	100	100	90	93	100	93	89
D	RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS	81	60	86	80	80	100	78	79
E	COUPLING, SOLDERING, AND RELAYS	100	100	100	100	96	100	93	100
F	MICROPHONES, SPEAKERS, AND OSCILLOSCOPES	97	100	100	90	97	100	98	95
G	SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS	100	100	100	100	96	100	96	95
H	SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS	97	100	100	90	94	100	93	95
I	MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES	75	80	81	60	73	83	73	68
J	ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,	31	0	33	40	24	33	29	11
K	AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS	72	60	71	80	84	83	82	89
L	LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS	92	100	95	80	96	100	93	100
M	TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS	86	80	90	80	94	100	96	89
N	METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS	92	80	100	80	90	100	91	84
O	SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS	22	0	19	40	37	67	36	32
P	TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS	72	20	81	80	60	83	69	42
Q	REGISTERS, STORAGE DEVICES, AND DIGITAL TO ANALOG CONVERTERS	75	40	81	80	99	100	98	100
R	PHANTASTRONS, SCHMITT TRIGGERS, AND CABLE FABRICATION	56	40	62	50	83	100	80	84
S	INPUT\OUTPUT DEVICES, PHOTO SENSITIVE DEVICES, AND SYNCHRONOUS VIBRATIONS	83	80	86	80	91	100	91	89
T	INFRARED, LASERS, AND DISPLAY TUBES	25	40	29	10	13	33	7	21
U	PROGRAMMING, DB AND POWER RATIOS	78	40	90	70	91	100	91	89

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
A	1	A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR	89	80	95	80	83	83	82	84	
A	2	A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY	56	40	62	50	61	67	60	63	MATHEMATICS
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	56	0	76	40	59	33	58	68	
A	4	A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.	11	0	19	10	24	17	24	26	
A	5	A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.	28	0	33	30	46	33	44	53	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	6	0	5	10	1	0	0	5	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	6	0	5	10	3	0	2	5	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	3	0	5	0	7	17	7	5	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS	0	0	0	0	0	0	0	0	
A	10	A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.	6	0	0	20	6	0	2	16	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	22	0	29	20	27	33	27	26	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.	3	0	0	10	3	0	2	5	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	6	0	5	10	7	0	9	5	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	19	0	24	20	26	17	27	26	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.	97	100	100	90	96	100	98	89	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	50	80	48	40	54	50	56	53	
A	17	A2-03 DO YOU USE THE TERM OHM.	97	100	100	90	97	100	98	95	
A	18	A2-04 DO YOU USE THE TERM ION.	6	0	5	10	16	17	11	26	DIRECT CURRENT
A	19	A2-05 DO YOU USE THE TERM DYNE.	3	0	0	10	4	0	2	11	AND VOLTAGE
A	20	A2-06 DO YOU USE THE TERM AMPERE.	94	100	100	80	94	100	96	89	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	14	0	14	20	14	0	13	21	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	17	0	14	30	19	17	20	16	
A	23	A2-09 DO YOU USE THE TERM PROTON.	14	0	14	20	11	0	13	11	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	89	80	95	80	81	83	82	79	
A	25	A3-02 DO YOU INSPECT RESISTORS.	89	100	95	70	84	100	89	68	
A	26	A3-03 DO YOU CLEAN RESISTORS.	72	100	76	50	54	83	58	37	
A	27	A3-04 DO YOU ADJUST RESISTORS.	94	100	95	90	89	100	91	79	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	97	100	100	90	87	100	89	79	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	86	100	90	70	76	100	82	53	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.	25	20	24	30	31	67	24	37	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.	94	100	95	90	91	100	91	89	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR	86	80	86	90	86	67	89	84	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.	97	100	100	90	87	100	84	89	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.	94	100	95	90	86	100	89	84	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.	17	0	24	10	20	17	20	21	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO	28	20	29	30	26	0	27	32	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY,	97	100	100	90	94	100	96	89	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	69	60	76	60	74	100	78	58	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	64	60	67	60	66	100	64	58	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	64	60	67	60	66	83	67	58	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	50	40	48	60	44	50	44	42	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	69	60	76	60	71	100	76	53	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	61	60	67	50	63	100	64	47	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	72	80	71	70	61	83	60	58	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	64	60	67	60	51	83	51	42	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	47	40	48	50	36	50	31	42	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	75	80	81	60	74	100	78	58	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	67	80	71	50	66	100	67	53	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	69	80	71	60	61	100	60	53	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	61	60	67	50	56	100	53	47	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	47	40	48	50	37	67	33	37	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	97	100	100	90	91	100	93	89	
B	53	B1-02 DO YOU REPAIR AN OHMMETER.	6	0	5	10	10	0	9	16	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	97	100	100	90	91	100	93	89	
B	55	B1-04 DO YOU REPAIR A VOLTMETER.	8	0	5	20	9	0	9	11	
B	56	B1-05 DO YOU REPAIR AN AMMETER.	6	0	5	10	11	0	11	16	MULTIMETER USES
B	57	B1-06 DO YOU MEASURE CURRENT.	86	100	86	80	80	100	80	74	
B	58	B1-07 DO YOU USE A MULTIMETER.	97	100	100	90	89	100	89	84	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	3	0	0	10	11	0	16	5
B	60	B1-09 DO YOU READ SCHEMATICS.	100	100	100	100	96	100	93	100
B	61	B2-01 DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).	92	100	90	90	91	100	91	89
B	62	B2-02 DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.	97	100	100	90	93	100	91	95
B	63	B2-03 DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).	86	100	76	100	80	83	78	84
B	64	B2-04 DO YOU USE OR REFER THE TERM WAVE LENGTH.	61	100	57	50	73	100	73	63
B	65	B2-05 DO YOU USE OR REFER THE TERM FREQUENCY.	94	100	100	80	96	100	96	95
B	66	B2-06 DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.	42	90	38	50	36	17	29	58
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	86	100	86	80	61	67	64	53
B	68	B3-02 DO YOU INSPECT INDUCTORS.	72	100	76	50	54	50	58	47
B	69	B3-03 DO YOU CLEAN INDUCTORS.	42	60	43	30	37	33	42	26
B	70	B3-04 DO YOU ADJUST INDUCTORS.	53	80	52	40	47	50	47	47
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	72	100	76	50	54	67	60	37
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	81	100	81	70	56	67	56	53
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	58	100	57	40	44	67	44	37
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	58	80	57	50	46	67	42	47
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	6	0	5	10	1	0	0	5
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	8	0	10	10	9	0	4	21
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	8	0	10	10	7	0	2	21
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE	11	0	14	10	7	17	7	5
B	79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	0	0	0	0	7	0	9	5
B	80	B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO	3	0	5	0	7	0	9	5
B	81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	0	0	0	0	9	0	9	11
B	82	B3-16 DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.	17	0	24	10	16	33	18	5
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.	17	0	24	10	19	33	18	16
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	17	0	24	10	19	33	18	16
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	17	0	24	10	17	33	16	16
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	19	0	24	20	30	33	27	37
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	17	0	14	30	21	33	20	21

EXAMPLE OF A HIGH UTILIZATION AREA

ALTERNATING CURRENT

INDUCTORS AND INDUCTIVE REACTANCE

EXAMPLE OF A LOW UTILIZATION AREA

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
B	88	B3-22	DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO	19	0	19	30	23	33	20	26	
B	89	B3-23	DO YOU WORK WITH POWER INDUCTORS.	42	90	33	60	34	0	44	21	
B	90	B3-24	DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	28	0	38	20	29	17	33	21	
B	91	B3-25	DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	53	0	62	60	37	33	36	42	
C	92	C1-01	DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.	89	100	86	90	80	100	80	74	
C	93	C1-02	DO YOU INSPECT CAPACITORS.	83	100	90	60	80	100	82	68	
C	94	C1-03	DO YOU CLEAN CAPACITORS.	44	60	48	30	59	67	69	32	CAPACITORS AND CAPACITIVE REACTANCE
C	95	C1-04	DO YOU ADJUST CAPACITORS.	58	80	67	30	71	67	76	63	
C	96	C1-05	DO YOU TEST CAPACITORS.	75	100	76	60	70	100	71	58	
C	97	C1-06	DO YOU DISCHARGE CAPACITORS.	78	60	90	60	66	100	67	53	
C	98	C1-07	DO YOU REMOVE OR REPLACE CAPACITORS.	81	100	86	60	71	100	78	47	
C	99	C1-08	DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	14	0	19	10	11	17	9	16	
C	100	C1-09	DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	0	0	0	0	0	0	0	0	
C	101	C1-10	DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	89	100	86	90	79	83	78	79	
C	102	C1-11	DO YOU USE OR REFER TO CAPACITANCE.	83	100	76	90	81	100	84	68	
C	103	C1-12	DO YOU USE OR REFER TO DIELECTRIC CONSTANT.	11	0	10	20	11	0	7	26	
C	104	C1-13	DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.	47	90	48	50	46	50	38	63	
C	105	C1-14	DO YOU USE OR REFER TO CAPACITIVE REACTANCE.	31	20	24	50	39	67	31	47	
C	106	C1-15	DO YOU USE OR REFER TO CAPACITOR COLOR CODES.	28	0	43	10	30	67	20	42	
C	107	C1-16	THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.	89	100	95	70	83	100	82	79	
C	108	C1-17	THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.	89	100	90	80	81	100	82	74	
C	109	C1-18	THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.	83	100	90	60	81	100	80	79	
C	110	C1-19	THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.	6	0	5	10	13	17	16	5	
C	111	C1-20	DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.	19	20	19	0	13	33	13	5	
C	112	C1-21	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL	6	0	5	10	9	17	7	11	
C	113	C1-22	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL	11	20	10	10	10	17	7	16	
C	114	C1-23	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.	28	0	29	40	26	50	27	16	
C	115	C1-24	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL.	28	0	29	40	29	50	31	16	
C	116	C1-25	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.	28	0	29	40	27	50	29	16	
C	117	C1-26	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY	31	0	33	40	33	33	27	47	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
C	118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.	22	20	29	20	27	17	29	37	
C	119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO	28	0	29	40	20	17	18	26	
C	120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE.	17	0	14	30	21	33	20	21	
C	121	C1-30 DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).	47	60	43	50	63	83	67	47	
C	122	C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.	50	40	48	60	41	50	38	47	
C	123	C1-32 DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).	92	100	90	90	80	83	82	74	
C	124	C1-33 DO YOU WORK WITH PAPER CAPACITORS (FIXED).	72	100	71	60	71	67	71	74	
C	125	C1-34 DO YOU WORK WITH MICA CAPACITORS (FIXED).	83	100	76	90	77	100	76	74	
C	126	C1-35 DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).	89	100	86	90	80	100	80	74	
C	127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.	14	0	19	10	13	17	16	5	
C	128	C2-01 DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.	78	80	81	70	77	83	76	79	
C	129	C2-02 DO YOU INSPECT TRANSFORMERS.	78	100	86	50	70	83	73	58	
C	130	C2-03 DO YOU CLEAN TRANSFORMERS.	50	60	52	40	56	67	62	37	
C	131	C2-04 DO YOU ADJUST TRANSFORMERS.	58	80	67	30	59	83	58	53	TRANSFORMERS
C	132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS.	81	80	86	70	69	100	69	58	
C	133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.	81	100	86	60	69	100	73	47	
C	134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.	8	40	5	0	9	0	13	0	
C	135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).	8	0	10	10	9	0	13	0	
C	136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.	3	0	5	0	6	0	9	0	
C	137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.	8	20	10	0	14	33	16	5	
C	138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.	6	20	5	0	17	17	22	5	
C	139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.	6	0	10	0	13	0	18	5	
C	140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.	3	0	5	0	9	0	11	5	
C	141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS.	36	20	29	70	46	33	42	58	
C	142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS.	86	80	90	80	76	83	73	79	
C	143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS.	50	20	62	40	37	33	38	37	
C	144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.	58	20	57	80	46	33	49	42	
C	145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.	8	0	14	0	16	50	18	0	
C	146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.	81	60	86	80	70	83	69	68	
C	147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.	81	60	86	80	63	50	62	68	
C	148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.	78	60	81	80	60	83	56	63	
C	149	C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR	33	40	38	20	21	0	22	26	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
C 150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-	50	40	52	50	44	17	49	42	
C 151	C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.	86	100	86	80	80	100	80	74	
C 152	C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.	78	100	71	80	70	67	71	68	
C 153	C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	83	100	86	70	74	83	73	74	
C 154	C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	86	100	86	80	77	100	76	74	
C 155	C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	56	80	48	60	53	33	51	63	
C 156	C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	58	80	52	60	60	33	60	68	
C 157	C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	64	60	67	60	63	83	58	68	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING	53	40	52	60	47	33	42	63	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.	22	0	29	20	26	0	27	32	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE	31	0	29	50	31	17	36	26	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.	44	20	48	50	49	17	49	58	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	14	20	14	10	17	0	22	11	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	6	0	5	10	10	0	13	5	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.	61	60	67	50	59	50	58	63	
C 165	C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.	56	40	67	40	49	50	47	53	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.	19	20	19	20	31	33	31	32	
C 167	C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.	25	20	38	0	36	67	29	42	
C 168	C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.	50	40	57	40	51	67	47	58	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.	50	40	62	30	47	67	49	37	
C 170	C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.	8	20	10	0	11	17	16	0	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.	22	20	19	30	31	33	29	37	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.	17	0	19	30	29	33	29	26	
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.	3	0	0	10	19	17	13	32	MAGNETISM
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.	3	0	0	10	11	17	9	16	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
C	175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.	6	0	5	10	14	17	11	21	
C	176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.	8	0	0	30	16	17	11	26	
C	177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.	19	0	14	40	31	17	27	47	
C	178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.	3	0	0	10	4	0	7	0	
C	179	C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.	3	0	0	10	6	0	9	0	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.	19	0	10	50	23	0	24	26	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY.	11	0	5	30	14	0	11	26	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES	36	40	29	50	34	50	31	37	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.	28	20	24	40	23	50	20	21	
C	184	C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.	19	20	19	20	16	33	16	11	
D	185	D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.	56	40	57	60	60	83	56	63	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.	19	20	24	10	10	17	7	16	RCL CIRCUITS
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.	8	0	10	10	10	17	9	11	
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.	25	0	33	20	26	33	24	26	
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.	25	0	33	20	23	33	22	21	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.	17	0	24	10	19	33	18	16	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.	31	0	38	30	29	17	31	26	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.	19	0	29	10	17	17	18	16	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.	17	0	24	10	19	17	20	16	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.	17	0	24	10	19	17	18	21	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.	11	0	14	10	7	0	9	11	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.	19	0	29	10	10	0	9	16	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	33	0	33	50	41	67	36	47	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.	36	0	38	50	39	50	40	32	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.	22	0	24	30	34	50	33	32	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
D 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.	33	0	33	50	39	50	36	42
D 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.	28	20	29	30	19	33	16	21
D 202	D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.	36	20	29	60	29	33	29	21
D 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.	25	20	24	30	19	17	11	21
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	50	20	48	70	34	50	33	32
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS: SINE OF AN ANGLE = OPPOSITE SIDE	8	0	10	10	14	33	7	26
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.	8	20	5	10	9	0	9	21
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS.	14	20	14	10	11	17	11	11
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.	6	0	5	10	10	0	11	11
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.	14	20	14	10	10	0	11	11
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.	8	0	10	10	9	0	2	11
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.	3	0	0	10	6	0	7	5
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.	6	0	5	10	7	0	7	11
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.	3	0	0	10	6	0	7	5
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.	11	20	10	10	9	0	9	11
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.	6	0	5	10	9	0	9	5
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.	8	20	5	10	9	0	9	11
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.	11	20	10	10	14	0	13	21
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.	64	60	57	80	97	50	97	97
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.	31	60	19	90	29	33	31	21
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.	56	60	48	70	90	50	38	42
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.	33	60	29	90	29	0	31	16
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.	0	0	0	0	1	0	2	0
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.	14	0	14	20	11	0	11	16
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE	25	0	29	30	21	17	18	32

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT	22	20	19	30	17	17	13	26	
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK	25	0	29	30	26	50	20	32	
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.	17	0	19	20	10	17	7	16	
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT	11	0	5	30	14	17	11	21	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR	33	20	38	30	40	33	33	58	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.	31	20	38	20	29	33	20	47	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.	25	20	33	10	14	0	13	21	
D 232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.	11	0	14	10	11	0	9	21	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE	22	0	33	10	26	33	18	42	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.	11	0	14	10	4	0	4	5	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A	11	0	10	20	11	17	13	5	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT	11	0	10	20	14	17	13	16	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND	6	0	5	10	9	0	9	11	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR	11	0	10	20	13	33	7	21	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.	61	40	71	50	63	50	60	74	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS.	56	20	62	60	53	33	58	47	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS.	39	20	38	50	37	33	42	26	FILTERS
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.	33	0	52	10	34	33	38	26	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.	61	20	67	70	50	33	53	47	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.	58	40	67	50	49	33	51	47	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.	61	20	71	60	46	33	49	42	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
D	246	D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.	50	20	57	50	44	33	49	37	
D	247	D3-09 DO YOU WORK ON LOW PASS FILTERS.	44	20	43	60	43	17	44	47	
D	248	D3-10 DO YOU WORK ON HIGH PASS FILTERS.	44	20	43	60	41	17	42	47	
D	249	D3-11 DO YOU WORK ON BANDPASS FILTERS.	44	20	43	60	36	17	40	32	
D	251	D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER	39	0	38	60	33	17	36	32	
D	250	D3-12 DO YOU WORK ON BAND-REJECT FILTERS.	19	0	33	0	21	33	20	21	
D	252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.	36	20	33	50	36	17	33	47	
D	253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.	33	20	29	50	33	17	33	37	
D	254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.	25	0	29	30	27	17	29	26	
D	255	D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.	28	20	43	0	27	33	31	16	
D	256	D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	31	0	33	40	36	17	38	37	
D	257	D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.	33	20	33	40	36	17	38	37	
D	258	D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	31	0	33	40	36	17	38	37	
D	259	D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.	33	0	48	20	24	33	27	16	
D	260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC	19	0	29	10	9	0	11	5	
E	261	E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.	61	60	67	50	57	33	58	63	
E	262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	56	60	62	40	57	33	58	63	
E	263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	56	60	62	40	49	33	51	47	COUPLING
E	264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	53	60	57	40	54	33	51	68	
E	265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.	56	60	67	30	53	33	53	58	
E	266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.	47	60	52	30	46	33	49	42	
E	267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.	53	60	62	30	49	33	47	58	
E	268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.	47	40	57	30	53	33	49	68	
E	269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.	50	40	57	40	49	33	44	63	
E	270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.	44	40	52	30	43	33	42	47	
E	271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.	47	40	52	40	49	33	44	63	
E	272	E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.	22	40	19	20	9	0	11	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
E	273	E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.	92	100	90	90	79	100	80	68	
E	274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.	72	60	71	80	63	50	71	47	SOLDERING
E	275	E2-03 DO YOU ADD FLUX TO CONNECTIONS.	92	100	95	80	61	50	69	47	
E	276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.	89	100	90	80	76	67	84	58	
E	277	E2-05 DO YOU STRIP INSULATION FROM WIRES.	92	100	95	80	80	100	84	63	
E	278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.	92	100	95	80	73	83	80	53	
E	279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.	92	100	95	80	79	100	82	63	
E	280	E2-08 DO YOU CUT WIRES.	92	100	95	80	80	100	84	63	
E	281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.	69	60	71	70	64	67	67	58	
E	282	E2-10 DO YOU TIN SOLDERING IRON TIPS.	89	100	90	80	80	100	84	63	
E	283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS.	92	100	95	80	80	100	84	63	
E	284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.	89	80	95	80	79	100	84	58	
E	285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.	83	80	86	80	80	100	84	63	
E	286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.	94	100	95	90	81	100	84	68	
E	287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.	89	100	95	70	79	100	84	58	
E	288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.	75	60	86	60	76	100	82	53	
E	289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.	72	80	76	60	64	50	73	47	
E	290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.	39	40	48	20	29	17	36	16	
E	291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.	92	100	95	80	79	100	82	63	
E	292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	81	100	86	60	76	100	80	58	
E	293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	83	100	90	60	71	100	73	58	
E	294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	81	100	90	50	71	100	73	58	
E	295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	94	100	100	80	93	100	91	95	
E	296	E3-02 DO YOU ADJUST RELAYS	25	20	29	30	27	50	20	37	
E	297	E3-03 DO YOU CLEAN RELAYS	36	40	38	30	34	50	38	21	
E	298	E3-04 DO YOU INSPECT RELAYS	94	100	100	80	71	100	71	63	
E	299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	92	100	95	80	79	100	82	63	RELAYS
E	300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	22	40	19	20	21	33	20	21	
E	301	E3-07 DO YOU TROUBLESHOOT RELAYS	92	80	100	80	89	100	87	89	
E	302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	47	40	52	40	31	67	29	26	
E	303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	36	40	33	40	30	67	27	26	
E	304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	14	40	10	10	9	33	7	5	
E	305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	17	40	14	10	19	33	18	16	
E	306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	14	20	10	20	9	33	7	5	
E	307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	11	20	10	10	9	33	7	5	
E	308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	92	100	95	80	93	100	91	95	
E	309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	89	100	95	70	94	100	93	95	
E	310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	92	100	95	80	91	100	89	95	
E	311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	92	100	95	80	91	100	89	95	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
E 312	E3-18	DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	89	80	95	80	86	83	89	89	
E 313	E3-19	DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	92	80	95	90	79	100	69	79	
F 314	F1-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	6	0	10	0	0	0	0	0	
F 315	F1-02	DO YOU INSPECT MICROPHONES	0	0	0	0	0	0	0	0	
F 316	F1-03	DO YOU CLEAN MICROPHONES	0	0	0	0	0	0	0	0	
F 317	F1-04	DO YOU OPERATE MICROPHONES	3	0	5	0	0	0	0	0	MICROPHONES
F 318	F1-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	3	0	5	0	0	0	0	0	
F 319	F1-06	DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	0	0	0	0	0	0	
F 320	F1-07	DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	3	0	5	0	0	0	0	0	
F 321	F1-08	DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0	0	0	0	0	0	
F 322	F1-09	DO YOU PERFORM TASKS ON CARBON MICROPHONES	3	0	5	0	0	0	0	0	
F 323	F1-10	DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	0	0	0	0	
F 324	F1-11	DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	0	0	0	0	0	0	
F 325	F1-12	DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	0	0	0	0	0	0	
F 326	F1-13	DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0	0	0	0	0	0	
F 327	F2-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	6	0	10	0	1	0	0	5	
F 328	F2-02	DO YOU INSPECT SPEAKERS	3	0	5	0	0	0	0	0	
F 329	F2-03	DO YOU CLEAN SPEAKERS	0	0	0	0	0	0	0	0	
F 330	F2-04	DO YOU OPERATE SPEAKERS	3	0	5	0	1	0	0	5	SPEAKERS
F 331	F2-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	3	0	5	0	0	0	0	0	
F 332	F2-06	DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0	0	0	0	0	0	0	0	
F 333	F2-07	DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	3	0	5	0	1	0	0	5	
F 334	F2-08	DO YOU REMOVE OR REPLACE SPEAKER PARTS	0	0	0	0	0	0	0	0	
F 335	F2-09	DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	0	0	0	0	
F 336	F2-10	DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	0	0	0	0	
F 337	F2-11	DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0	0	0	0	0	0	0	0	
F 338	F2-12	DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0	0	0	0	0	0	0	0	
F 339	F2-13	DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	0	0	0	0	0	0	
F 340	F2-14	DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	0	0	0	0	0	0	
F 341	F2-15	DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	0	0	0	0	0	0	
F 342	F3-01	DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	97	100	100	90	97	100	98	95	
F 343	F3-02	DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	94	100	95	90	91	100	91	89	
F 344	F3-03	DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	92	100	90	90	86	100	87	79	OSCILLOSCOPES
F 345	F3-04	DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	94	100	95	90	90	100	91	89	
F 346	F3-05	DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	97	100	100	90	96	100	98	89	
F 347	F3-06	DO YOU USE OSCILLOSCOPES TO MEASURE TIME	97	100	100	90	93	83	93	95	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
F 348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	36	20	38	40	41	33	47	32	
F 349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	94	100	100	80	93	100	91	95	
F 350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	83	60	90	80	70	50	71	74	
F 351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	97	100	100	90	97	100	98	95	
F 352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	83	60	90	80	79	83	73	89	
F 353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	94	100	100	80	97	100	98	95	
G 354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	97	100	95	100	93	100	93	89	
G 355	G1-02 DO YOU INSPECT DIODES	97	100	100	90	81	100	80	79	
G 356	G1-03 DO YOU REMOVE OR REPLACE DIODES	86	100	90	70	74	100	80	53	SEMICONDUCTOR DIODES
G 357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	92	80	95	90	84	100	87	74	
G 358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	0	0	0	0	7	50	4	0	
G 359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE,	19	40	19	10	20	17	22	16	
G 360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	22	40	19	20	23	17	24	21	
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	47	20	57	40	70	100	69	63	
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON	83	60	90	80	80	83	78	89	
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	11	0	19	0	14	50	9	16	
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	61	40	62	70	61	67	58	68	
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	36	20	43	30	36	83	31	32	
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	0	
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	0	
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	72	60	81	60	73	67	73	74	
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0	0	
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0	0	
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	61	60	62	60	64	67	60	74	
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	0	0	0	0	0	0	0	0	
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
G	374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	0
G	375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0	0	0	4	17	2	5
G	376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0	0	0	1	0	0	5
G	377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	86	100	81	90	83	100	78	89
G	378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	17	0	19	20	26	0	31	21
G	379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE	31	20	38	20	36	67	29	42
G	380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT	8	0	14	0	17	17	20	11
G	381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR	64	80	57	70	79	83	73	89
G	382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	1	0	2	0
G	383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G	384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G	385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	1	17	0	0
G	386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	3	0	5	0	1	17	0	0
G	387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	19	0	19	30	9	17	2	21
G	388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	6	0	10	0	4	0	2	11
G	389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	6	0	10	0	4	0	2	11
G	390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	25	40	19	30	40	33	38	47
G	391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	25	40	19	30	40	33	38	47
G	392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	3	0	5	0	7	17	4	11
G	393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	3	0	5	0	6	0	4	11
G	394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	3	0	5	0	3	0	4	0
G	395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	8	20	10	0	7	17	7	5
G	396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	6	0	10	0	7	17	2	16

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
G 397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	47	40	43	60	59	33	58	68	
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	3	0	5	0	4	0	4	5	
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	53	20	57	60	51	50	49	58	
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	17	0	14	30	26	17	20	42	
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	11	0	10	20	24	17	20	37	
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	17	0	19	20	29	17	24	42	
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	22	0	19	40	31	17	29	42	
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	94	100	95	90	93	100	93	89	
G 405	G2-02 DO YOU INSPECT TRANSISTORS	92	100	100	70	80	100	80	74	
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	78	100	90	40	76	100	78	63	
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	83	80	95	60	86	100	89	74	
G 408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	78	80	86	60	84	100	84	79	TRANSISTORS
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	78	80	86	60	83	100	82	79	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	75	80	81	60	81	100	80	79	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	22	20	24	20	27	33	29	21	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	19	20	24	10	24	33	29	11	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	47	40	52	40	51	83	56	32	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	14	20	10	20	34	33	36	32	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	94	100	100	80	94	100	93	95	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	92	100	95	80	94	100	93	95	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	61	40	76	40	63	100	62	53	
G 418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY	19	40	19	10	27	67	22	26	
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR	44	60	33	60	50	67	42	63	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	19	0	19	30	26	17	27	26	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	17	0	24	10	11	17	13	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	17	0	19	20	10	17	7	16	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	8	0	10	10	10	17	7	16	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	8	0	10	10	9	17	9	16	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	8	0	5	20	1	0	2	0	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	3	0	0	10	1	0	2	0	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	3	0	0	10	1	0	2	0	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	81	60	86	80	71	67	73	68	
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	75	60	86	60	64	67	67	58	
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	67	60	76	50	50	67	49	47	TRANSISTOR
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	69	60	76	60	67	67	69	63	AMPLIFIERS
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	61	60	67	50	63	50	67	58	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	61	60	67	50	60	67	67	42	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	61	60	71	40	50	50	53	42	
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE	19	20	19	20	34	33	33	37	
G 436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	8	0	14	0	17	17	18	16	
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE	22	20	19	30	33	33	33	32	
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	6	0	10	0	14	17	13	16	
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	11	0	14	10	29	33	27	32	
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	8	0	10	10	16	17	13	21	
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A	0	0	0	0	1	0	2	0	
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	8	0	10	10	23	17	22	26	
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	3	0	0	10	4	0	7	0	
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	42	40	48	30	41	50	38	47	
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	36	40	38	30	29	50	29	32	
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	22	40	29	10	26	50	20	32	
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE	6	0	5	10	1	0	2	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE	11	0	10	20	3	0	4	0
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE	6	0	5	10	1	17	0	0
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE	11	0	10	20	7	17	2	16
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	3	0	0	10	0	0	0	0
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	36	40	33	40	31	50	27	37
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-	28	20	29	30	29	50	24	32
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	31	20	33	30	31	50	24	42
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	36	40	33	40	33	50	27	42
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	40	33	30	33	50	27	42
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	40	33	30	29	50	24	32
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	47	40	52	40	36	50	33	37
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	36	20	43	30	34	33	33	37
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	39	20	48	30	31	33	27	42
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	39	40	38	40	39	50	36	42
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	36	40	38	30	39	50	36	42
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	36	40	38	30	30	33	29	32
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	33	0	38	40	30	50	27	32
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	42	40	48	30	41	50	40	42

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
G	466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	33	20	38	30	34	33	33	37	
G	467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	33	20	38	30	29	33	27	32	
G	468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	33	20	38	30	27	33	27	26	
G	469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	33	20	38	30	30	33	29	32	
G	470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR	6	0	5	10	13	33	11	11	
G	471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	19	0	24	20	30	50	29	26	
G	472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	22	20	19	30	31	50	29	32	
G	473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	44	20	52	40	56	50	56	58	
G	474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	36	20	38	40	33	17	31	42	
G	475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	36	20	38	40	39	33	36	47	
G	476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	42	20	43	50	44	50	44	42	
H	477	H1-01 DO YOU USE OR REFER TO VARACTORS	17	20	10	30	27	17	24	37	
H	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	61	60	67	50	57	50	53	68	
H	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	81	80	90	60	70	83	69	68	SOLID-STATE SPECIAL PURPOSE DEVICES
H	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	69	60	76	60	71	83	69	74	
H	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	92	100	100	70	89	83	91	84	
H	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	97	100	100	90	91	83	93	89	
H	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	97	100	100	90	91	100	91	89	
H	484	H2-02 DO YOU INSPECT POWER SUPPLIES	94	100	100	80	80	83	82	74	
H	485	H2-03 DO YOU CLEAN POWER SUPPLIES	72	80	76	60	57	83	64	32	
H	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	94	100	100	80	89	100	89	84	POWER SUPPLIES
H	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	89	60	100	80	87	100	91	74	
H	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	78	80	90	50	73	83	78	58	
H	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	89	100	95	70	79	100	89	58	
H	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	72	80	86	40	66	83	71	47	
H	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	83	80	86	80	73	83	76	63	
H	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	72	80	71	70	79	100	76	63	
H	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	81	80	90	60	76	100	78	63	
H	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	50	40	52	50	51	83	49	47	
H	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	94	100	100	80	77	100	80	63	
H	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	92	80	100	80	66	67	67	63	
H	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	92	100	95	80	76	100	76	68	
H	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	78	80	76	80	70	83	71	63	
H	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	83	60	90	80	67	83	69	58	
H	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	78	60	81	80	59	67	56	47	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
H	501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	47	40	38	70	46	33	51	37	
H	502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	83	80	86	80	73	100	73	63	
H	503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	78	60	81	80	73	83	76	63	
H	504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	72	60	76	70	56	50	56	58	
H	505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	72	60	76	70	50	33	53	47	
H	506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	64	60	62	70	46	33	47	47	
H	507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	61	60	57	70	44	33	47	42	
H	508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	58	60	57	60	41	33	42	42	
H	509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	58	60	57	60	44	33	42	53	
H	510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	28	20	38	10	34	50	40	16	
H	511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	3	0	0	10	6	0	9	0	
H	512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	64	60	71	50	66	67	69	58	
H	513	H3-02 DO YOU INSPECT OSCILLATORS	64	60	71	50	60	83	62	47	
H	514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	58	40	62	60	61	83	62	53	
H	515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	67	60	67	70	60	83	69	42	OSCILLATORS
H	516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	44	60	43	40	44	50	49	32	
H	517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	67	60	67	70	70	83	73	58	
H	518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	44	60	43	40	47	50	49	42	
H	519	H3-08 DO YOU USE OR REFER TO FEEDBACK	53	20	67	40	53	33	56	53	
H	520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	44	60	43	40	44	67	40	47	
H	521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	50	20	57	50	49	50	49	47	
H	522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	53	20	62	50	51	50	51	53	
H	523	H3-12 DO YOU USE OR REFER TO DAMPING	36	20	43	30	34	17	36	37	
H	524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	44	20	52	40	46	33	49	42	
H	525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	6	0	5	10	21	0	20	32	
H	526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	11	0	14	10	16	17	13	21	
H	527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	14	0	19	10	14	0	18	11	
H	528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	14	0	19	10	14	0	18	11	
H	529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	39	40	43	30	41	50	44	32	
H	530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	50	40	52	50	49	50	49	47	
H	531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	44	20	57	30	53	50	56	47	
H	532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	19	0	24	20	20	33	22	11	
H	533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	31	40	29	30	23	17	29	21	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
H	534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	31	90	29	30	20	17	22	16	
H	535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	31	90	29	30	21	17	29	16	
H	536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	11	20	19	0	13	0	13	16	
H	537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	11	20	10	10	13	0	13	16	
H	538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	33	0	43	30	30	50	36	11	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	58	80	57	50	61	83	60	58	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	58	80	57	50	56	83	53	53	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	47	80	48	30	57	83	53	58	
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	44	80	43	30	47	50	47	47	MULTIVIBRATORS
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	56	80	52	50	61	83	62	53	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	47	80	48	30	57	83	56	53	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	56	60	57	50	54	83	56	42	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	39	60	38	30	47	83	44	42	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	33	90	33	30	40	50	40	37	
I	548	I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	31	90	29	30	46	50	44	47	
I	549	I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	28	20	29	30	41	50	42	37	
I	550	I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	25	20	24	30	21	33	22	16	
I	551	I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	53	80	52	40	57	83	53	58	
I	552	I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	56	80	57	40	59	83	53	63	
I	553	I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	58	80	62	40	54	67	53	53	
I	554	I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	11	20	10	10	14	17	13	16	
I	555	I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	56	60	57	50	46	67	44	42	
I	556	I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS	47	90	52	40	39	50	33	32	LIMITERS AND CLAMPERS
I	557	I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	44	90	48	40	31	17	36	26	
I	558	I2-04 DO YOU WORK WITH LIMITERS WITH BIAS	33	90	29	40	27	17	27	32	
I	559	I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS	47	90	52	40	40	50	40	37	
I	560	I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS	44	90	48	40	36	33	40	26	
I	561	I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	11	0	14	10	13	33	11	11	
I	562	I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	44	20	52	40	30	0	31	37	
I	563	I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	39	20	43	40	26	0	31	21	
I	564	I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	14	20	14	10	16	50	16	5	
I	565	I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	11	0	14	10	10	0	13	5	
I	566	I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	14	0	14	20	6	0	9	0	ELECTRON TUBES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	6	0	0	20	3	0	4	0
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	14	0	14	20	1	0	2	0
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	14	0	14	20	3	0	4	0
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	14	0	14	20	9	0	11	5
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	6	0	5	10	1	0	2	0
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	8	0	10	10	3	0	4	0
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	8	0	10	10	0	0	0	0
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	6	0	5	10	0	0	0	0
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	6	0	5	10	3	0	4	0
I 576	13-12 DO YOU USE OR REFER TO SATURATION	8	0	10	10	1	0	2	0
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	8	0	5	20	0	0	0	0
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	0	0	0	0	0
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	11	0	10	20	7	0	9	5
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	11	0	10	20	1	0	2	0
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	14	0	14	20	7	0	9	5
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	11	0	10	20	1	0	2	0
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	11	0	14	10	7	0	9	5
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	14	0	14	20	1	0	2	0
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS	3	0	5	0	3	0	4	0
I 586	13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0	0	0	0
I 587	13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	1	0	2	0
I 588	13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	0	0	0	0	0	0	0
I 589	13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	0	0	0	0	0	0
I 590	13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 591	13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 592	13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	3	0	0	10	3	0	4	0
I 593	13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	0	0	0	0	0	0
I 594	13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 595	13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 596	13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	0	0	0	0	0	0
I 597	13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
I 598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	8	0	5	20	3	0	4	0	
I 599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	6	0	5	10	0	0	0	0	
I 600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	3	0	0	10	1	0	2	0	
I 601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	6	0	0	20	1	0	2	0	
I 602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	6	0	5	10	3	0	4	0	
I 603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	3	0	0	10	1	0	2	0	
I 604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	3	0	0	10	0	0	0	0	
I 605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	8	0	5	20	10	0	13	5	
I 606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	11	0	10	20	10	0	13	5	
I 607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE	3	0	0	10	3	0	4	0	
I 608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	3	0	0	10	3	0	2	5	
J 609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	11	0	10	20	6	0	9	0	
J 610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER	6	0	5	10	1	0	0	5	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	6	0	5	10	3	0	4	0	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	8	0	10	10	3	0	4	0	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	3	0	5	0	1	0	2	0	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	6	0	5	10	1	0	2	0	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	1	0	2	0	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	3	0	5	0	6	0	9	0	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	3	0	5	0	7	0	11	0	
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	0	0	SPECIAL PURPOSE ELECTRON TUBES
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	3	0	0	10	0	0	0	0	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	0	0	0	0	0	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	0	0	0	0	0	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	0	0	0	0	3	0	4	0	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	0	0	0	0	3	0	4	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
J	624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	0	0	0	0	3	0	4	0	
J	625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	3	0	0	10	6	0	9	0	
J	626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	0	0	0	0	
J	627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	1	0	2	0	
J	628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	3	0	0	10	0	0	0	0	
J	629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	0	0	0	0	0	0	0	0	
J	630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	3	0	0	10	3	0	4	0	
J	631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	3	0	0	10	3	0	4	0	
J	632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	22	0	24	30	14	33	16	5	
J	633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	14	0	10	30	13	33	13	5	HETERODYNING, MODULATION, AND DEMODULATION
J	634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	17	0	14	30	14	33	16	5	
J	635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	8	0	5	20	6	0	9	0	
J	636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	6	0	0	20	7	17	9	0	
J	637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	3	0	0	10	11	17	14	0	
K	638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	14	0	14	20	7	33	4	5	
K	639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	14	0	14	20	4	17	2	5	
K	640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	8	0	5	20	4	17	2	5	AM SYSTEMS
K	641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	4	17	2	5	
K	642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	11	0	10	20	4	17	2	5	
K	643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	3	0	0	10	3	0	2	5	
K	644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	11	0	10	20	3	17	0	5	
K	645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	3	0	0	10	3	0	2	5	
K	646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	8	0	10	10	4	17	2	5	
K	647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	8	0	10	10	6	17	4	5	
K	648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	8	0	10	10	4	17	4	0	
K	649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	8	0	10	10	6	17	4	5	
K	650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	3	0	5	0	6	17	4	5	
K	651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	6	0	10	0	6	17	4	5	
K	652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	8	0	10	10	6	17	4	5	
K	653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	3	0	0	10	1	17	0	0	
K	654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	3	0	0	10	4	17	2	5	
K	655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	3	0	0	10	4	17	2	5	
K	656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	0	3	17	0	5	
K	657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	0	0	0	0	3	17	0	5	
K	658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	1	17	0	0	
K	659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	3	0	0	10	1	17	0	0	
K	660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	1	17	0	0	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	1	17	0	0	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	1	17	0	0	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	14	0	14	20	4	17	2	5	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	8	0	10	10	4	17	2	5	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	8	0	10	10	4	33	2	0	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	3	17	2	0	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	6	0	5	10	3	17	2	0	FM SYSTEMS
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	3	0	5	0	3	17	2	0	
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	3	17	2	0	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	3	17	2	0	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	1	17	0	0	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	3	17	2	0	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	6	0	10	0	3	33	0	0	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	3	0	5	0	4	33	2	0	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	6	0	10	0	4	33	2	0	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	6	0	10	0	4	33	2	0	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	6	0	10	0	4	33	2	0	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	6	0	10	0	4	33	2	0	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	6	0	10	0	4	33	2	0	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	6	0	10	0	4	33	2	0	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	3	0	5	0	4	33	2	0	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	8	0	10	10	3	17	2	0	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	8	0	10	10	1	17	0	0	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	99	20	93	60	79	67	78	89	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	61	90	62	70	79	67	78	89	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	50	90	98	60	79	67	71	89	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	53	90	52	60	71	67	69	79	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	64	60	67	60	77	83	71	89	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	53	90	52	60	79	67	71	89	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	58	60	57	60	69	50	69	68	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	47	60	98	40	59	50	56	68	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	50	60	98	50	57	50	58	58	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
K	694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	94	90	93	50	56	50	63	63	
L	695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	89	100	90	80	93	83	91	100	
L	696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	58	80	57	50	60	50	60	63	
L	697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	58	80	57	50	60	50	60	63	LOGIC FUNCTIONS
L	698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	58	80	57	50	60	50	60	63	
L	699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	58	80	57	50	59	50	60	58	
L	700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	61	80	57	60	83	100	78	89	
L	701	K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	61	80	57	60	83	100	78	89	
L	702	K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	61	80	57	60	81	100	76	89	
L	703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	61	80	57	60	80	100	78	79	
L	704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	86	80	90	80	94	100	91	100	
L	705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	86	80	90	80	94	100	91	100	
L	706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	86	80	90	80	94	100	91	100	
L	707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	83	80	90	70	90	100	91	84	
L	708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC	28	40	19	40	34	50	27	47	
L	709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	17	0	14	30	30	17	29	37	BOOLEAN EQUATIONS
L	710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	11	0	10	20	17	0	18	21	
L	711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	33	60	29	30	33	17	31	42	
L	712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	53	80	52	40	67	83	60	79	
L	713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	42	60	38	40	40	50	36	47	
L	714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	44	60	43	40	39	50	33	47	
L	715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	31	20	29	40	39	50	31	53	
L	716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	28	20	29	30	23	17	16	42	
L	717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	58	80	57	50	69	83	60	84	
L	718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	25	40	24	20	40	67	33	47	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
L	719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	44	60	48	30	59	83	53	63	
L	720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	56	80	62	30	61	83	58	63	
L	721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	61	80	71	30	64	83	58	74	
L	722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	61	80	71	30	64	83	60	68	
L	723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	64	80	71	40	63	83	56	74	
L	724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	64	80	71	40	61	83	53	74	
L	725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	64	80	67	50	70	83	64	79	
L	726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	47	60	48	40	59	67	51	74	
L	727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	50	60	52	40	60	83	56	63	
L	728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	56	60	62	40	60	83	56	63	
L	729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	69	80	71	60	69	83	62	79	
L	730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	56	60	52	60	61	83	58	63	
L	731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	61	60	62	60	63	83	58	68	
L	732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	44	60	43	40	46	50	44	47	
L	733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	78	80	81	70	84	100	82	84	
L	734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	78	80	81	70	87	100	87	84	
L	735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	75	80	81	60	86	100	87	79	
L	736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	72	80	76	60	83	100	82	79	
L	737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	69	80	76	50	83	100	82	79	COUNTERS
L	738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	42	20	43	50	63	50	62	68	
L	739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	64	60	71	50	77	100	76	74	
L	740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	56	20	62	60	64	83	58	74	
L	741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	75	80	76	70	83	100	82	79	
L	742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	75	80	76	70	80	100	80	74	
L	743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	56	60	57	50	64	83	62	63	
L	744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-	61	60	67	50	66	100	62	63	
L	745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	56	40	67	40	73	83	71	74	
L	746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	39	20	43	40	57	50	58	58	
L	747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	56	40	62	50	71	83	71	68	
L	748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	64	80	71	40	79	100	76	79	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
L 749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	56	40	71	30	69	67	60	79	
L 750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	50	60	52	40	57	67	53	63	
L 751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENT-	47	40	52	40	57	67	53	63	
L 752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE	50	60	52	40	60	67	56	68	
L 753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	42	40	48	30	61	50	58	79	
L 754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	28	20	33	20	36	33	33	42	
L 755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	33	20	38	30	49	50	42	63	
L 756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	47	40	57	30	56	67	49	68	
M 757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	69	40	71	60	70	100	69	63	
M 758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	31	20	33	30	50	67	47	53	
M 759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	44	20	48	50	56	100	53	47	TIMING CIRCUITS
M 760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	47	40	52	40	59	100	58	47	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	39	20	33	60	40	67	40	32	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	78	60	81	80	87	100	87	84	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	67	60	71	60	77	67	80	79	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	72	60	76	70	80	83	84	68	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	39	40	33	50	59	67	60	53	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	50	60	52	40	63	100	60	58	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	33	40	29	40	47	50	44	53	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	39	40	38	40	50	50	53	42	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	72	40	86	60	76	100	78	63	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	72	40	86	60	74	100	78	58	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL	56	40	67	40	66	100	69	47	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	61	20	76	50	67	100	73	42	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	44	20	62	20	63	100	69	37	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	67	20	81	60	47	67	42	53	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
M	775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	58	20	71	50	57	67	56	58	
M	776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	58	20	71	50	54	50	60	42	
M	777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	64	20	81	50	60	67	62	53	
M	778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	67	40	81	50	63	100	62	53	
M	779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR	42	20	43	50	49	67	53	32	
M	780	M3-02 DO YOU INSPECT MOTORS	39	20	43	40	49	67	53	32	MOTORS AND GENERATORS
M	781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	39	20	43	40	43	50	51	21	
M	782	M3-04 DO YOU OPERATE MOTORS	31	0	33	40	34	50	36	26	
M	783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	42	20	43	50	43	67	49	21	
M	784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	6	0	5	10	19	33	20	11	
M	785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	42	20	43	50	44	50	49	32	
M	786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	11	20	10	10	14	17	13	16	
M	787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	3	0	0	10	3	0	4	0	
M	788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	3	0	0	10	6	0	7	5	
M	789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	3	0	0	10	4	0	7	0	
M	790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	3	0	0	10	7	0	9	5	
M	791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	3	0	0	10	11	0	13	11	
M	792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	3	0	0	10	7	0	9	5	
M	793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	3	0	0	10	4	0	7	0	
M	794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	3	0	5	0	3	17	2	0	
M	795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	8	0	14	0	10	33	7	11	
M	796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	3	0	5	0	7	50	2	5	
M	797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	28	20	33	20	27	33	29	21	
M	798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	33	20	43	20	29	33	31	21	
M	799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	19	0	29	10	21	33	22	16	
M	800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	36	20	43	30	31	67	33	16	
M	801	M3-23 DO YOU INSPECT GENERATORS	19	0	19	30	21	50	20	16	
M	802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	14	0	14	20	16	50	16	5	
M	803	M3-25 DO YOU OPERATE GENERATORS	22	0	24	30	23	50	22	16	
M	804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	22	0	19	40	16	50	16	5	
M	805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	8	0	10	10	14	50	13	5	
M	806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	22	0	19	40	20	50	18	16	
M	807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	8	0	10	10	16	50	13	11	
M	808	M1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	83	80	86	80	81	100	89	68	
M	809	M1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	8	0	14	0	16	17	13	21	METER MOVEMENTS
M	810	M1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	11	0	19	10	17	17	16	21	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	11	0	14	10	17	17	16	21	
N 812	N1-05 DO YOU READ METER SCALES	86	80	90	80	84	100	89	68	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	33	80	29	20	33	50	40	11	
N 814	N1-07 DO YOU ZERO OHMMETERS	86	80	90	80	84	100	89	68	
N 815	N1-08 DO YOU ZERO AMMETERS	53	60	57	40	53	83	51	47	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	47	80	43	40	43	50	53	16	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	72	60	71	80	60	83	64	42	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	8	0	0	30	4	17	0	11	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	3	0	0	10	3	17	0	5	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	3	0	0	10	3	17	0	5	
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	4	17	0	11	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	3	0	0	10	4	17	0	11	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	0	0	20	3	17	0	5	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	3	17	0	5	
N 825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	0	0	0	0	0	0	0	0	
N 826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF	0	0	0	0	3	17	0	5	
N 827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE	6	0	0	20	4	17	2	5	
N 828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	0	0	0	0	3	17	0	5	
N 829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	3	0	0	10	1	17	0	0	
N 833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	6	0	0	20	4	17	0	11	
N 834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	64	60	67	60	70	100	67	68	
N 835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	31	20	33	30	31	33	33	26	WAVESHAPING CIRCUITS
N 836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	64	60	67	60	70	100	67	68	
N 837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	64	60	71	50	61	83	56	68	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	64	60	71	50	66	83	64	63	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	50	40	57	40	63	83	60	63	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	53	40	62	40	67	83	67	63	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	25	20	29	20	30	50	31	21	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT	25	20	29	20	29	0	27	42	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	56	40	67	40	64	83	67	53	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	44	20	57	30	63	83	64	53	
O	845	01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	11	0	14	10	6	33	4	0	
O	846	01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	6	33	4	0	
O	847	01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	6	33	4	0	
O	848	01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	6	0	5	10	6	33	4	0	SINGLE SIDEBAND SYSTEMS
O	849	01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	8	0	10	10	6	33	4	0	
O	850	01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	11	0	14	10	6	33	4	0	
O	851	01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	11	0	14	10	6	33	4	0	
O	852	01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	11	0	14	10	6	33	4	0	
O	853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	8	0	10	10	4	33	2	0	
O	854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	6	0	5	10	6	33	4	0	
O	855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	6	0	5	10	7	33	7	0	
O	856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	6	0	5	10	7	33	7	0	
O	857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	3	0	5	0	7	33	7	0	
O	858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	6	33	4	0	
O	859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	8	0	10	10	7	33	7	0	
O	860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	6	0	5	10	4	33	2	0	
O	861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	8	0	10	10	7	33	7	0	
O	862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	11	0	14	10	7	33	7	0	
O	863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	11	0	14	10	7	33	7	0	
O	864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	8	0	10	10	6	33	4	0	
O	865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	6	0	10	0	6	33	4	0	
O	866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	6	0	5	10	4	33	2	0	
O	867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	6	0	10	0	0	0	0	0	
O	868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	3	0	4	0	
O	869	01-25 DO YOU USE OR REFER TO PEAK POWER	8	0	14	0	6	17	7	0	
O	870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	8	0	14	0	6	17	7	0	
O	871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	3	0	5	0	3	17	2	0	
O	872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	6	0	10	0	4	17	4	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
0	873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	11	0	14	10	6	33	4	0	
0	874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	8	0	14	0	6	33	4	0	
0	875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	17	0	10	40	33	50	31	32	
0	876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	17	0	10	40	27	50	24	26	
0	877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	14	0	10	30	24	50	24	16	PULSE MODULATION SYSTEMS
0	878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	14	0	10	30	30	50	27	32	
0	879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	17	0	10	40	30	50	29	26	
0	880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	14	0	10	30	29	50	27	26	
0	881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	14	0	10	30	24	50	24	16	
0	882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	11	0	10	20	24	50	24	16	
0	883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	8	0	0	30	19	17	16	26	
0	884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	6	0	0	20	14	17	11	21	
0	885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	3	0	0	10	10	17	9	11	
0	886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	6	0	0	20	7	0	7	11	
0	887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	3	0	0	10	6	17	2	11	
0	888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	3	0	5	0	11	17	9	16	
0	889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	17	0	10	40	23	33	24	16	
0	890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	6	0	5	10	9	0	9	11	
0	891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	11	0	10	20	26	50	24	21	
0	892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	17	0	10	40	21	33	20	21	
0	893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0	1	0	2	0	
0	894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	11	0	10	20	14	17	16	11	
0	895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	8	0	5	20	6	0	7	5	
0	896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	11	0	10	20	20	50	18	16	
0	897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	8	0	5	20	20	50	18	16	
0	898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	11	0	10	20	19	50	18	11	
0	899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	17	0	10	40	30	50	27	32	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
0	900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	14	0	10	30	27	50	24	26	
0	901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	11	0	10	20	16	33	13	16	
0	902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	3	0	5	0	9	17	9	5	
0	903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	17	0	10	40	30	50	27	32	
0	904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	17	0	10	40	29	50	24	32	
0	905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	17	0	10	40	33	50	31	32	
0	906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	17	0	10	40	33	50	31	32	
0	907	02-33 DO YOU USE OR REFER TO PEAK POWER	17	0	10	40	24	33	24	21	
0	908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	14	0	5	40	20	17	20	21	
0	909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	8	0	5	20	17	33	13	21	
0	910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	8	0	5	20	24	33	22	26	
0	911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	8	0	5	20	10	0	16	0	
0	912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	14	0	10	30	27	33	27	26	
0	913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	6	0	5	10	16	50	13	11	
0	914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	3	0	5	0	0	0	0	0	
0	915	03-02 DO YOU INSPECT ANTENNAS	3	0	5	0	0	0	0	0	
0	916	03-03 DO YOU CLEAN ANTENNAS	3	0	5	0	0	0	0	0	
0	917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	3	0	5	0	0	0	0	0	ANTENNAS
0	918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	3	0	5	0	0	0	0	0	
0	919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	3	0	5	0	0	0	0	0	
0	920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	3	0	5	0	0	0	0	0	
0	921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	3	0	5	0	0	0	0	0	
0	922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	3	0	5	0	0	0	0	0	
0	923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	0	0	0	0	
0	924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	0	0	0	0	
0	925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	0	0	0	0	
0	926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS	0	0	0	0	0	0	0	0	
0	927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS	0	0	0	0	0	0	0	0	
0	928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
O	929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	0	0	0	0	
O	930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	0	0	0	0	
O	931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0	0	0	0	
O	932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	0	0	0	0	
O	933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	0	0	0	0	
O	934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	0	0	0	0	
O	935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0	
O	936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0	
O	937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0	
O	938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0	
O	939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	0	0	0	0	
O	940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	0	0	0	0	
O	941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0	0	0	0	0	0	0	
O	942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	0	0	0	0	
O	943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0	0	0	0	
O	944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR	0	0	0	0	0	0	0	0	
O	945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0	0	0	0	0	0	
O	946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0	0	0	0	0	0	
O	947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	0	0	0	0	
O	948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	0	0	0	0	0	0	0	0	
O	949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	0	
O	850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	0	
O	851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	0	0	0	0	0	0	0	0	
O	852	03-39 DO YOU WORK WITH POLAR ANTENNA ARRAYS	3	0	5	0	0	0	0	0	
P	953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS	8	0	5	20	11	17	9	16	
P	954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	3	0	0	10	0	0	0	0	TRANSMISSION LINES
P	955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	3	0	0	10	9	0	9	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	3	0	0	10	3	0	2	5
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	3	0	2	5
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	3	0	0	10	6	0	4	11
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	8	0	5	20	4	17	2	5
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	6	0	5	10	4	17	2	5
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	3	0	0	10	0	0	0	0
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	8	0	5	20	11	17	9	16
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	8	0	5	20	11	17	9	16
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	6	0	5	10	10	17	9	11
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION	0	0	0	0	1	0	2	0
P 966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	3	0	5	0	6	0	7	5
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	3	0	0	10	10	0	9	16
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	6	0	0	20	3	0	0	11
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	3	0	0	11
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH	0	0	0	0	1	0	0	5
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0	0	0	6	0	4	11
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	0	0	1	0	2	0
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	1	0	2	0
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	3	0	0	10	7	0	7	11
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	1	0	0	5
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	1	0	2	0
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	0	0	0	0
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	3	0	2	5
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	0	0	0	0
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF	0	0	0	0	1	0	2	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	6	0	5	10	3	0	4	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0	0	10	0	9	16	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	4	0	2	11	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	58	20	62	70	51	83	56	32	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	64	20	71	70	47	83	49	32	WAVEGUIDES AND CAVITY RESONATORS
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	47	20	57	40	30	67	31	16	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	11	0	14	10	14	33	18	0	
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	11	0	14	10	10	33	11	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	44	20	48	50	23	50	18	26	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	36	20	33	50	20	33	20	16	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	53	20	62	50	39	67	42	21	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	58	20	67	60	49	83	53	26	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	47	20	52	50	41	67	42	32	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	50	20	57	50	51	83	56	32	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	25	20	19	40	19	33	18	16	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	25	20	19	40	19	33	18	16	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	36	20	38	40	23	33	27	11	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	11	0	10	20	13	17	16	5	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	6	0	5	10	13	0	16	11	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	47	20	48	60	37	67	36	32	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	39	20	38	50	27	67	22	26	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	3	0	0	10	3	0	4	0	
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	3	0	0	10	3	0	4	0	
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	3	0	0	10	10	17	13	0	
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	3	0	0	10	7	0	11	0	
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	4	0	7	0	
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	3	0	4	0	
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	3	0	4	0	
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	3	0	4	0	
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS	6	0	5	10	3	0	4	0	
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35	0	0	0	0	4	0	7	0	
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	6	0	10	0	7	0	7	11	
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	7	17	7	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR	0	0	0	0	4	0	7	0	
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	3	0	4	0	
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	3	0	4	0	
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	3	0	4	0	
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	11	0	19	0	13	17	11	16	
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	3	0	5	0	11	33	7	16	
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	14	0	19	10	7	0	11	0	
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	7	0	7	11	
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	33	0	38	40	21	50	22	11	
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	0	
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	0	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	3	0	5	0	0	0	0	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	6	0	5	10	10	0	13	5	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	3	0	5	0	7	0	7	11	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	31	0	38	30	29	67	29	16	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	11	20	10	10	7	17	7	5	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	7	0	9	5	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	4	0	7	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	6	0	0	20	23	50	22	16	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	25	20	29	30	19	0	16	16	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR	31	0	48	10	47	83	47	37	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	3	0	5	0	10	17	9	11	
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	3	0	5	0	6	0	9	0	
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	3	0	5	0	9	0	11	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	11	0	19	0	20	17	20	21
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	3	0	2	5
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	3	0	5	0	4	0	2	11
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	3	0	4	0
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	4	0	7	0
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	7	0	4	16
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	31	0	43	20	46	83	44	37
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	3	0	5	0	3	0	4	0
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	3	0	5	0	3	17	2	0
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	6	0	10	0	16	17	11	26
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	31	0	43	20	41	83	40	32
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	17	0	24	10	27	50	31	11
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	25	0	33	20	30	33	33	21
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	11	0	14	10	17	50	18	5
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	28	0	38	20	43	83	42	32
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	17	0	19	20	34	67	38	16
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	31	0	43	20	40	83	42	21
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	8	0	5	20	11	33	11	5
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	6	0	5	10	0	0	0	0
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	6	0	5	10	1	0	2	0
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	6	0	5	10	1	0	2	0
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	6	0	5	10	0	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	3	0	0	10	0	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	3	0	0	10	0	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	3	0	0	10	0	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	6	0	5	10	0	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	3	0	5	0	6	0	4	11
P1065	P3-32 DO YOU CLEAN MAGNETRONS	3	0	5	0	6	0	4	11
P1066	P3-33 DO YOU ADJUST MAGNETRONS	3	0	5	0	4	0	2	11
P1067	P3-34 DO YOU TUNE MAGNETRONS	6	0	10	0	4	0	2	11
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	6	0	10	0	6	0	4	11
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	3	0	5	0	4	0	2	11
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	3	0	5	0	7	17	4	11
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	3	0	5	0	1	0	0	5
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	1	0	2	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	1	0	2	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	1	0	2	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	6	0	10	0	3	17	2	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	1	0	2	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	1	0	2	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	1	0	2	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	1	0	2	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	6	0	10	0	1	0	2	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	4	0	2	11
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	3	0	5	0	6	0	4	11
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	3	0	2	5
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	3	0	5	0	4	0	2	11
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	0	3	0	2	5
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	3	0	5	0	6	0	2	16
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	3	0	5	0	6	0	2	16
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	3	0	5	0	6	0	2	16
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	19	0	29	10	36	33	36	37
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	19	0	29	10	34	33	33	37
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	14	0	19	10	23	17	22	26
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	19	0	29	10	37	50	36	37
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	19	0	24	20	39	50	38	37
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	3	0	5	0	24	33	22	26
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	19	33	16	21
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	19	0	33	0	34	67	31	32
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	1	0	2	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	1	0	2	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	1	0	2	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	3	0	2	5	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	1	0	2	0	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	1	0	2	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	1	0	2	0	
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	72	40	81	70	90	83	87	100	
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	69	40	81	60	89	83	84	100	
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	67	20	81	60	84	83	78	100	REGISTERS
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	69	20	81	70	86	83	80	100	
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	64	20	76	60	83	83	78	95	
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	64	20	76	60	80	83	71	100	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES	58	40	67	50	73	67	69	84	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	67	40	71	70	86	100	87	79	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	50	20	57	50	70	83	69	68	STORAGE DEVICES
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	31	0	38	30	80	100	76	84	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	11	0	10	20	34	50	29	42	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	33	0	43	30	86	100	84	84	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	28	0	33	30	73	50	73	79	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	28	0	38	20	80	83	80	79	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	22	0	29	20	51	50	47	63	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	36	0	48	30	63	83	56	74	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D)	53	20	52	70	77	67	80	74	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT	11	0	10	20	27	33	29	32	DIGITAL TO ANALOG CONVERTERS
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A)	6	0	5	10	26	33	29	26	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	11	0	10	20	37	33	33	47	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	28	20	24	40	34	0	38	37	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	25	20	24	30	34	0	38	37	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	25	20	19	40	39	17	40	42	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	22	20	19	30	34	17	33	42	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER	22	20	19	30	16	33	18	5	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	17	0	14	30	37	17	38	42	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	17	0	14	30	39	17	38	47	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	14	0	10	30	49	50	47	53	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	17	0	14	30	49	50	44	58	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	14	0	14	20	24	33	31	5	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	8	0	10	10	1	0	0	5	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	42	40	43	40	61	100	58	58	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	36	20	43	30	60	100	56	58	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	42	40	43	40	63	100	60	58	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	42	20	48	40	39	50	36	42	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	42	20	43	50	54	83	53	47	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	75	60	76	80	76	83	73	79	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	75	60	76	80	76	100	71	79	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	33	20	33	40	36	50	33	37	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	31	20	33	30	34	67	31	32	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	25	20	29	20	19	33	13	11	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	17	20	19	10	7	17	4	11	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	19	20	24	10	7	33	2	11	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	17	20	19	10	7	17	4	11	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	17	20	19	10	9	33	4	11	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	19	20	19	20	11	33	9	11	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	19	20	19	20	11	33	9	11	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	22	20	24	20	10	33	7	11	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	22	20	24	20	11	33	9	11	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	22	40	24	10	9	17	9	16	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	19	40	19	10	6	17	9	5	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	19	40	19	10	6	17	9	5	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	19	40	19	10	9	0	9	5	
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	17	40	14	10	6	17	9	5	INFRARED
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	19	40	19	10	6	17	9	5	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	19	40	19	10	6	17	9	5	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	19	40	19	10	9	0	9	5	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	19	40	19	10	6	17	9	5	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	19	40	19	10	3	0	9	0	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	3	0	5	0	0	0	0	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	3	0	5	0	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	6	0	5	10	1	0	0	5	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	6	0	5	10	1	0	0	5	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	11	20	10	10	9	0	2	11	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	8	0	10	10	1	0	0	5	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	3	0	5	0	1	0	0	5	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	6	0	5	10	3	0	0	11	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	3	0	5	0	0	0	0	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	3	0	5	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	3	0	5	0	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	3	0	5	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	11	0	14	10	3	0	2	5	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	8	0	10	10	3	0	2	5	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	8	0	10	10	1	0	0	5	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	LASERS
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE	3	0	5	0	4	17	2	5	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	0	0	0	0	3	17	2	0	DISPLAY TUBES
T1222	T3-03 DO YOU CLEAN DVST OR MMST	0	0	0	0	3	17	2	0	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	0	0	0	0	0	0	0	0	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	3	0	5	0	3	17	2	0	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	0	0	0	0	3	0	2	5	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	0	0	0	0	3	17	2	0	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0	0	1	0	0	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 006	SPC 007	SPC 008	SPC 009	SPC 010	SPC 011	SPC 012	SPC 013	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	0	0	0	0	0	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0	0	0	0	0	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	0	0	0	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0	0	0	0	0	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	28	0	33	30	76	100	71	79	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	25	0	29	30	69	83	64	74	PROGRAMMING
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	25	0	33	20	71	100	67	74	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	25	0	29	30	76	100	69	84	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	28	0	33	30	60	100	56	58	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	6	0	5	10	13	0	18	5	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	28	0	33	30	76	100	69	84	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	19	0	24	20	54	67	47	68	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	22	0	29	20	77	100	71	84	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	22	0	29	20	77	100	71	84	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	25	0	33	20	80	100	76	84	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	25	0	33	20	79	100	73	84	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	22	0	29	20	77	100	71	84	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	19	0	29	10	51	67	47	58	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	14	0	19	10	33	50	31	32	
U1249	U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	25	0	33	20	74	100	69	79	
U1250	U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	25	0	33	20	73	100	67	79	
U1251	U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	25	0	33	20	71	83	69	74	
U1252	U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	22	0	29	20	76	100	71	79	
U1253	U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	22	0	29	20	74	83	71	79	
U1254	U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	22	0	29	20	73	83	69	79	
U1255	U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	72	40	86	60	61	33	69	53	
U1256	U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	11	0	14	10	19	0	18	11	DB AND POWER RATIOS
U1257	U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	8	0	10	10	19	0	18	11	

PERCENT MEMBERS ANSWERING 'YES' TO EPI ITEMS BY DAFSC GROUPS IN THE 326X0/92 CAREER LADDER.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY = SPC019 ALL AMN 326X0C	CONTAINING	3 MEMBERS.
GROUP IDENTITY = SPC016 ALL AMN 32650C	CONTAINING	2 MEMBERS.
GROUP IDENTITY = SPC017 ALL AMN 32670C	CONTAINING	1 MEMBERS.
GROUP IDENTITY = SPC018 ALL AMN 326X0D	CONTAINING	33 MEMBERS.
GROUP IDENTITY = SPC019 ALL AMN 32630D	CONTAINING	1 MEMBERS.
GROUP IDENTITY = SPC020 ALL AMN 32650D	CONTAINING	29 MEMBERS.
GROUP IDENTITY = SPC021 ALL AMN 32670D	CONTAINING	8 MEMBERS.

DUTY GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DUTY	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
A	MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE	100	100	100	100	100	100	100
B	MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE	100	100	100	100	100	100	100
C	CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM	67	50	100	97	100	100	88
D	RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS	100	100	100	70	100	67	75
E	COUPLING, SOLDERING, AND RELAYS	100	100	100	100	100	100	100
F	MICROPHONES, SPEAKERS, AND OSCILLOSCOPES	100	100	100	97	100	100	88
G	SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS	67	50	100	97	100	100	88
H	SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS	100	100	100	100	100	100	100
I	MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES	33	0	100	70	100	67	75
J	ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,	33	0	100	21	0	21	25
K	AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS	100	100	100	82	100	79	88
L	LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS	100	100	100	94	100	96	88
M	TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS	100	100	100	100	100	100	100
N	METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS	100	100	100	97	100	100	88
O	SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS	100	100	100	18	100	17	13
P	TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS	67	50	100	52	100	54	38
Q	REGISTERS, STORAGE DEVICES, AND DIGITAL TO ANALOG CONVERTERS	100	100	100	100	100	100	100
R	PHANTASTRONS, SCHMITT TRIGGERS, AND CABLE FABRICATION	100	100	100	91	100	92	88
S	INPUT\OUTPUT DEVICES, PHOTO SENSITIVE DEVICES, AND SYNCHRONOUS VIBRATIONS	100	100	100	94	100	96	88
T	INFRARED, LASERS, AND DISPLAY TUBES	67	100	0	12	0	8	25
U	PROGRAMMING, DB AND POWER RATIOS	67	50	100	73	100	75	63

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
A	1	A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR	100	100	100	91	100	96	75	
A	2	A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY	33	0	100	64	0	75	38	MATHEMATICS
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	67	50	100	64	0	67	63	
A	4	A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.	67	50	100	24	0	25	25	
A	5	A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.	67	50	100	42	0	42	50	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	0	0	0	0	0	0	0	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	0	0	0	3	0	4	0	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	0	0	0	12	0	13	13	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS	0	0	0	0	0	0	0	
A	10	A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.	33	0	100	15	0	13	25	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	67	50	100	36	0	33	50	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.	0	0	0	3	0	4	0	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	33	0	100	6	0	4	13	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	33	0	100	27	0	25	38	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.	100	100	100	100	100	100	100	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	33	0	100	42	0	38	63	
A	17	A2-03 DO YOU USE THE TERM OHM.	100	100	100	97	100	96	100	DIRECT CURRENT AND VOLTAGE
A	18	A2-04 DO YOU USE THE TERM ION.	33	0	100	24	0	25	25	
A	19	A2-05 DO YOU USE THE TERM DYNE.	33	0	100	12	0	13	13	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	100	100	100	97	100	96	100	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	0	0	0	21	0	21	25	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	67	50	100	21	0	25	13	
A	23	A2-09 DO YOU USE THE TERM PROTON.	0	0	0	24	0	25	25	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	100	100	100	88	100	92	75	
A	25	A3-02 DO YOU INSPECT RESISTORS.	67	50	100	85	100	92	63	
A	26	A3-03 DO YOU CLEAN RESISTORS.	33	50	0	52	100	54	38	
A	27	A3-04 DO YOU ADJUST RESISTORS.	67	50	100	94	100	96	88	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	67	50	100	91	100	92	88	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	67	50	100	88	100	88	88	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.	33	0	100	15	0	17	13	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.	100	100	100	91	100	92	88	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR	67	50	100	82	100	83	75	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
A	33	A3-10	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.	100	100	100	88	100	88	88	
A	34	A3-11	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.	67	50	100	82	100	79	88	
A	35	A3-12	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.	33	50	0	18	0	21	13	
A	36	A3-13	DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO	33	0	100	24	0	21	38	
A	37	A3-14	DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY,	100	100	100	94	100	96	88	
A	38	A3-15	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	33	0	100	58	0	54	75	
A	39	A3-16	DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	33	0	100	42	0	42	50	
A	40	A3-17	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	33	0	100	58	100	58	50	
A	41	A3-18	DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	33	0	100	36	100	33	38	
A	42	A3-19	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	33	0	100	48	0	42	75	
A	43	A3-20	DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	33	0	100	36	0	33	50	
A	44	A3-21	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES -ARALLEL RESISTIVE CIRCUITS.	33	0	100	48	100	46	50	
A	45	A3-22	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	33	0	100	33	0	33	38	
A	46	A3-23	DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	33	0	100	33	100	33	25	
A	47	A3-24	DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	33	0	100	55	0	50	75	
A	48	A3-25	DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	33	0	100	36	0	33	50	
A	49	A3-26	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	33	0	100	48	100	46	50	
A	50	A3-27	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	33	0	100	30	0	29	38	
A	51	A3-28	DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	33	0	100	27	100	25	25	
B	52	B1-01	DO YOU MEASURE RESISTANCE.	67	50	100	97	100	100	88	
B	53	B1-02	DO YOU REPAIR AN OHMMETER.	0	0	0	3	0	4	0	
B	54	B1-03	DO YOU MEASURE VOLTAGE.	67	50	100	97	100	100	88	
B	55	B1-04	DO YOU REPAIR A VOLTMETER.	0	0	0	3	0	0	0	
B	56	B1-05	DO YOU REPAIR AN AMMETER.	0	0	0	0	0	0	0	MULTIMETER USES
B	57	B1-06	DO YOU MEASURE CURRENT.	67	50	100	88	100	96	63	
B	58	B1-07	DO YOU USE A MULTIMETER.	67	50	100	94	100	96	88	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			DY-TSK	SPC D14	SPC D16	SPC D17	SPC D18	SPC D19	SPC D20	SPC D21	
B	59	B1-08	DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	33	0	100	3	0	4	0	
B	60	B1-09	DO YOU READ SCHEMATICS.	100	100	100	97	100	96	100	
B	61	B2-01	DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).	100	100	100	91	100	88	100	
B	62	B2-02	DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.	100	100	100	97	100	96	100	ALTERNATING CURRENT
B	63	B2-03	DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).	67	50	100	85	100	83	88	
B	64	B2-04	DO YOU USE OR REFER THE TERM WAVE LENGTH.	67	50	100	82	100	88	63	
B	65	B2-05	DO YOU USE OR REFER THE TERM FREQUENCY.	100	100	100	100	100	100	100	
B	66	B2-06	DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.	33	0	100	48	0	42	75	
B	67	B3-01	DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	67	50	100	55	0	50	75	
B	68	B3-02	DO YOU INSPECT INDUCTORS.	67	50	100	45	0	42	63	INDUCTORS AND INDUCTIVE REACTANCE
B	69	B3-03	DO YOU CLEAN INDUCTORS.	0	0	0	30	0	33	25	
B	70	B3-04	DO YOU ADJUST INDUCTORS.	33	0	100	42	0	38	63	
B	71	B3-05	DO YOU REMOVE OR REPLACE INDUCTORS.	67	50	100	52	0	46	75	
B	72	B3-06	DO YOU USE OR REFER TO INDUCTANCE.	33	0	100	48	0	50	50	
B	73	B3-07	DO YOU USE OR REFER TO HENRIES.	33	0	100	30	0	25	50	
B	74	B3-08	DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	33	0	100	33	0	29	50	
B	75	B3-09	DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	0	0	0	3	0	4	0	
B	76	B3-10	DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	33	0	100	3	0	4	0	
B	77	B3-11	DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	33	0	100	3	0	4	0	
B	78	B3-12	DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE	33	0	100	12	0	13	13	
B	79	B3-13	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	33	0	100	12	0	13	13	
B	80	B3-14	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO	33	0	100	9	0	8	13	
B	81	B3-15	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	33	0	100	6	0	4	13	
B	82	B3-16	DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.	0	0	0	9	0	8	13	
B	83	B3-17	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.	33	0	100	12	0	8	25	
B	84	B3-18	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	33	0	100	12	0	8	25	
B	85	B3-19	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	33	0	100	9	0	8	13	
B	86	B3-20	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	33	0	100	29	0	17	50	
B	87	B3-21	DO YOU CALCULATE INDUCTIVE REACTANCE.	33	0	100	21	0	13	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
B	88	B3-22	DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO	33	0	100	18	0	13	38	
B	89	B3-23	DO YOU WORK WITH POWER INDUCTORS.	67	50	100	33	0	33	38	
B	90	B3-24	DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	67	50	100	29	0	21	38	
B	91	B3-25	DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	67	50	100	33	0	29	50	
C	92	C1-01	DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.	67	50	100	76	0	79	75	
C	93	C1-02	DO YOU INSPECT CAPACITORS.	67	50	100	82	100	92	50	CAPACITORS AND
C	94	C1-03	DO YOU CLEAN CAPACITORS.	0	0	0	39	100	46	13	CAPACITIVE REACTANCE
C	95	C1-04	DO YOU ADJUST CAPACITORS.	67	50	100	64	0	67	63	
C	96	C1-05	DO YOU TEST CAPACITORS.	67	50	100	79	0	88	63	
C	97	C1-06	DO YOU DISCHARGE CAPACITORS.	33	0	100	64	100	67	50	
C	98	C1-07	DO YOU REMOVE OR REPLACE CAPACITORS.	67	50	100	85	100	83	88	
C	99	C1-08	DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	0	0	0	9	0	8	13	
C	100	C1-09	DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	0	0	0	6	0	8	0	
C	101	C1-10	DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	67	50	100	85	100	83	88	
C	102	C1-11	DO YOU USE OR REFER TO CAPACITANCE.	67	50	100	91	0	96	88	
C	103	C1-12	DO YOU USE OR REFER TO DIELECTRIC CONSTANT.	0	0	0	3	0	4	0	
C	104	C1-13	DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.	67	50	100	45	0	42	63	
C	105	C1-14	DO YOU USE OR REFER TO CAPACITIVE REACTANCE.	33	0	100	45	100	92	50	
C	106	C1-15	DO YOU USE OR REFER TO CAPACITOR COLOR CODES.	0	0	0	42	0	96	38	
C	107	C1-16	THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.	67	50	100	91	100	92	88	
C	108	C1-17	THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.	67	50	100	91	100	92	88	
C	109	C1-18	THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.	67	50	100	91	100	92	88	
C	110	C1-19	THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.	33	50	0	12	0	17	0	
C	111	C1-20	DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.	0	0	0	9	0	13	0	
C	112	C1-21	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL	33	50	0	6	0	4	13	
C	113	C1-22	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL	33	50	0	9	0	8	13	
C	114	C1-23	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.	67	50	100	15	0	17	13	
C	115	C1-24	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL.	33	0	100	15	0	17	13	
C	116	C1-25	DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.	67	50	100	15	0	17	13	
C	117	C1-26	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY	67	50	100	30	0	33	25	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
C	118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.	67	50	100	24	0	17	50	
C	119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO	67	50	100	18	0	13	38	
C	120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE.	33	0	100	21	100	13	38	
C	121	C1-30 DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).	33	0	100	42	0	54	13	
C	122	C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.	0	0	0	36	0	33	50	
C	123	C1-32 DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).	33	0	100	82	100	79	88	
C	124	C1-33 DO YOU WORK WITH PAPER CAPACITORS (FIXED).	33	0	100	58	100	58	50	
C	125	C1-34 DO YOU WORK WITH MICA CAPACITORS (FIXED).	67	50	100	70	100	67	75	
C	126	C1-35 DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).	67	50	100	67	100	67	63	
C	127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.	0	0	0	27	0	38	0	
C	128	C2-01 DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.	33	0	100	88	100	92	75	
C	129	C2-02 DO YOU INSPECT TRANSFORMERS.	67	50	100	82	100	92	50	
C	130	C2-03 DO YOU CLEAN TRANSFORMERS.	33	50	0	45	100	50	25	
C	131	C2-04 DO YOU ADJUST TRANSFORMERS.	67	50	100	64	100	67	50	TRANSFORMERS
C	132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS.	67	50	100	85	100	83	88	
C	133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.	33	0	100	82	100	79	88	
C	134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.	0	0	0	18	0	25	0	
C	135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).	33	0	100	3	0	4	0	
C	136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.	0	0	0	3	0	4	0	
C	137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.	33	0	100	9	0	13	0	
C	138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.	33	0	100	6	0	8	0	
C	139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.	0	0	0	12	0	13	13	
C	140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.	0	0	0	3	0	4	0	
C	141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS.	33	50	0	39	100	42	25	
C	142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS.	67	50	100	82	100	83	75	
C	143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS.	67	50	100	24	0	17	50	
C	144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.	67	50	100	36	100	29	50	
C	145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.	0	0	0	27	0	38	0	
C	146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.	33	0	100	85	100	83	88	
C	147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.	33	0	100	73	100	71	75	
C	148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.	33	0	100	67	100	67	63	
C	149	C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR	0	0	0	21	100	21	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
C 150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-	33	0	100	36	100	33	38	
C 151	C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	79	100	79	75	
C 152	C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	61	0	58	75	
C 153	C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	70	0	71	75	
C 154	C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	76	0	79	75	
C 155	C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	30	0	38	13	
C 156	C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	36	0	46	13	
C 157	C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	33	0	100	61	0	67	50	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING	0	0	0	42	0	42	50	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.	33	0	100	24	0	29	13	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE	33	0	100	27	0	29	25	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.	33	0	100	36	0	42	25	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	33	0	100	24	0	29	13	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	33	0	100	15	0	17	13	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.	33	0	100	42	0	42	50	
C 165	C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.	33	0	100	42	0	54	13	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.	0	0	0	24	0	29	13	
C 167	C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.	0	0	0	42	0	50	25	
C 168	C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.	33	0	100	55	0	58	50	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.	33	0	100	45	0	46	50	
C 170	C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.	0	0	0	15	0	21	0	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.	67	50	100	42	100	42	38	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.	67	50	100	30	0	29	38	MAGNETISM
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.	33	0	100	15	0	17	13	
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.	33	0	100	15	0	17	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 015	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
C	175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.	33	0	100	15	0	17	13	
C	176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.	33	0	100	18	0	17	25	
C	177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.	33	0	100	24	0	21	38	
C	178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.	0	0	0	3	0	0	13	
C	179	C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.	0	0	0	6	0	4	13	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.	33	0	100	27	0	29	25	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY.	33	0	100	15	0	13	25	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES	33	0	100	42	100	96	25	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.	33	0	100	18	0	17	25	
C	184	C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.	33	0	100	21	0	21	25	
D	185	D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.	33	0	100	39	0	33	63	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.	0	0	0	9	0	4	25	
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.	0	0	0	9	0	4	25	RCL CIRCUITS
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.	33	50	0	15	0	13	25	
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.	33	50	0	15	0	13	25	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.	0	0	0	15	0	13	25	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.	67	50	100	18	0	8	50	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.	33	0	100	9	0	4	25	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.	33	0	100	12	0	4	38	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.	33	0	100	12	0	4	38	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.	33	0	100	6	0	0	25	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.	33	0	100	6	0	0	25	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	67	50	100	21	0	8	63	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.	67	50	100	18	0	8	50	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.	67	50	100	12	0	0	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
D 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.	67	50	100	21	0	8	63
D 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.	0	0	0	18	0	8	50
D 202	D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.	33	0	100	15	0	13	25
D 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.	33	0	100	6	0	0	25
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	33	0	100	30	0	21	63
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS: SINE OF AN ANGLE = OPPOSITE SIDE	0	0	0	6	0	0	25
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.	0	0	0	12	0	8	25
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS.	33	0	100	6	0	0	25
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.	0	0	0	6	0	0	25
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.	33	0	100	6	0	0	25
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.	0	0	0	6	0	0	25
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.	33	0	100	6	0	0	25
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.	33	0	100	6	0	0	25
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.	33	0	100	6	0	0	25
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.	33	0	100	6	0	0	25
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.	0	0	0	6	0	0	25
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.	33	0	100	6	0	0	25
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.	0	0	0	6	0	0	25
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.	67	50	100	39	0	29	75
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.	33	0	100	27	0	13	75
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.	67	50	100	39	0	29	75
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.	33	0	100	21	0	8	63
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.	33	0	100	0	0	0	0
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.	0	0	0	9	0	0	38
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE	33	0	100	9	0	0	38

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT	33	0	100	12	0	0	50	
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK	0	0	0	12	0	4	38	
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.	33	0	100	6	0	0	25	
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT	33	0	100	6	0	0	25	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR	33	0	100	24	0	21	38	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.	33	0	100	9	0	8	13	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.	33	0	100	0	0	0	0	
D 232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.	0	0	0	3	0	0	13	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE	33	0	100	15	0	13	25	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.	0	0	0	6	0	4	13	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A	33	0	100	3	0	0	13	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT	33	0	100	3	0	0	13	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND	33	0	100	0	0	0	0	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR	33	0	100	6	0	0	25	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.	67	50	100	61	100	54	75	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS.	67	50	100	45	100	42	50	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS.	33	50	0	30	100	33	13	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.	67	50	100	45	100	38	63	FILTERS
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.	100	100	100	58	100	50	75	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.	100	100	100	55	100	50	63	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.	100	100	100	48	100	38	75	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 015	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
D	246	D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.	100	100	100	42	100	33	63	
D	247	D3-09 DO YOU WORK ON LOW PASS FILTERS.	33	0	100	27	0	21	50	
D	248	D3-10 DO YOU WORK ON HIGH PASS FILTERS.	33	0	100	27	0	21	50	
D	249	D3-11 DO YOU WORK ON BANDPASS FILTERS.	33	0	100	27	0	21	50	
D	251	D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER	33	0	100	9	0	4	25	
D	250	D3-12 DO YOU WORK ON BAND-REJECT FILTERS.	33	50	0	33	100	33	25	
D	252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.	33	0	100	27	0	17	63	
D	253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.	33	0	100	24	0	13	63	
D	254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.	33	0	100	24	0	13	63	
D	255	D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.	33	50	0	30	100	38	0	
D	256	D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	33	0	100	33	0	29	50	
D	257	D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.	33	0	100	36	0	33	50	
D	258	D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	33	0	100	30	0	25	50	
D	259	D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.	33	50	0	27	100	29	13	
D	260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC	0	0	0	3	0	4	0	
E	261	E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.	33	0	100	48	100	38	75	
E	262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	67	50	100	45	100	33	75	COUPLING
E	263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	33	0	100	36	100	25	63	
E	264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	67	50	100	39	100	29	63	
E	265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.	67	50	100	42	100	29	75	
E	266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.	33	0	100	36	100	25	63	
E	267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.	33	0	100	9	100	29	63	
E	268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.	33	0	100	39	100	25	75	
E	269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.	33	0	100	39	100	25	75	
E	270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.	33	0	100	33	100	21	63	
E	271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.	33	0	100	36	100	25	63	
E	272	E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.	0	0	0	18	100	21	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
E	273	E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.	100	100	100	82	100	83	75	SOLDERING
E	274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.	67	50	100	82	100	79	88	
E	275	E2-03 DO YOU ADD FLUX TO CONNECTIONS.	67	50	100	82	100	88	63	
E	276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.	67	50	100	82	100	88	63	
E	277	E2-05 DO YOU STRIP INSULATION FROM WIRES.	67	50	100	85	100	88	75	
E	278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.	67	50	100	85	100	88	75	
E	279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.	67	50	100	85	100	88	75	
E	280	E2-08 DO YOU CUT WIRES.	67	50	100	85	100	88	75	
E	281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.	33	50	0	79	100	79	75	
E	282	E2-10 DO YOU TIN SOLDERING IRON TIPS.	67	50	100	85	100	88	75	
E	283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS.	67	50	100	85	100	88	75	
E	284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.	33	50	0	82	100	88	63	
E	285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.	67	50	100	82	100	88	63	
E	286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.	67	50	100	88	100	88	88	
E	287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.	67	100	0	76	100	79	63	
E	288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.	100	100	100	82	100	83	75	
E	289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.	67	50	100	70	100	71	63	
E	290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.	33	50	0	39	100	46	13	
E	291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.	100	100	100	82	100	83	75	
E	292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	100	100	100	85	100	88	75	
E	293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	100	100	100	85	100	88	75	
E	294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	100	100	100	82	100	83	75	
E	295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	100	100	100	88	100	92	75	
E	296	E3-02 DO YOU ADJUST RELAYS	0	0	0	27	0	29	25	
E	297	E3-03 DO YOU CLEAN RELAYS	0	0	0	36	100	42	13	
E	298	E3-04 DO YOU INSPECT RELAYS	67	50	100	70	100	71	63	RELAYS
E	299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	100	100	100	82	0	83	88	
E	300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	33	50	0	12	0	17	0	
E	301	E3-07 DO YOU TROUBLESHOOT RELAYS	100	100	100	94	100	96	88	
E	302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	33	50	0	18	0	21	13	
E	303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	67	50	100	18	0	21	13	
E	304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	0	0	0	3	0	4	0	
E	305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	33	0	100	9	0	8	13	
E	306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	0	0	0	6	0	4	13	
E	307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	0	0	0	3	0	4	0	
E	308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	79	100	83	63	
E	309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	79	100	83	63	
E	310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	79	100	83	63	
E	311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	82	100	88	63	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		Qy-TSk	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
E	312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	100	100	100	85	100	83	88	
E	313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	67	50	100	82	100	79	88	
F	314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	33	0	100	0	0	0	0	
F	315	F1-02 DO YOU INSPECT MICROPHONES	0	0	0	0	0	0	0	
F	316	F1-03 DO YOU CLEAN MICROPHONES	0	0	0	0	0	0	0	
F	317	F1-04 DO YOU OPERATE MICROPHONES	33	0	100	0	0	0	0	MICROPHONES
F	318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	33	0	100	0	0	0	0	
F	319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	0	0	0	0	0	
F	320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	33	0	100	0	0	0	0	
F	321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0	0	0	0	0	
F	322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0	0	0	0	0	
F	323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	0	0	0	
F	324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	0	0	0	0	0	
F	325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	0	0	0	0	0	
F	326	F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0	0	0	0	0	
F	327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	0	0	0	0	0	0	0	
F	328	F2-02 DO YOU INSPECT SPEAKERS	0	0	0	0	0	0	0	
F	329	F2-03 DO YOU CLEAN SPEAKERS	0	0	0	0	0	0	0	
F	330	F2-04 DO YOU OPERATE SPEAKERS	0	0	0	0	0	0	0	SPEAKERS
F	331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	0	0	0	0	0	0	0	
F	332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0	0	0	0	0	0	0	
F	333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	0	0	0	0	0	0	0	
F	334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	0	0	0	0	0	0	0	
F	335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	0	0	0	
F	336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	0	0	0	
F	337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0	0	0	0	0	0	0	
F	338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0	0	0	0	0	0	0	
F	339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	0	0	0	0	0	
F	340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	0	0	0	0	0	
F	341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	0	0	0	0	0	
F	342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	100	100	100	99	100	96	88	
F	343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	67	50	100	99	100	96	88	
F	344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	67	50	100	88	0	92	88	OSCILLOSCOPES
F	345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	67	50	100	88	0	92	88	
F	346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	100	100	100	91	100	92	88	
F	347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	100	100	100	99	100	96	88	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
F	348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	67	50	100	24	0	29	13	
F	349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	100	100	100	91	100	92	88	
F	350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	33	50	0	64	100	58	75	
F	351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	100	100	100	94	100	100	75	
F	352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	33	0	100	73	100	71	75	
F	353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	100	100	100	97	100	100	88	
G	354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	67	50	100	94	100	96	88	
G	355	G1-02 DO YOU INSPECT DIODES	67	50	100	91	100	96	75	
G	356	G1-03 DO YOU REMOVE OR REPLACE DIODES	67	50	100	85	100	83	88	SEMICONDUCTOR
G	357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	67	50	100	94	100	96	88	DIODES
G	358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	0	0	0	0	0	0	0	
G	359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE,	0	0	0	12	0	8	25	
G	360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	0	0	0	24	0	21	38	
G	361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	67	50	100	70	0	71	75	
G	362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON	67	50	100	73	100	75	63	
G	363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	0	0	0	12	0	8	25	
G	364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	33	0	100	58	100	46	88	
G	365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	0	0	0	45	100	42	50	
G	366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	
G	367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	
G	368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	33	0	100	61	0	54	88	
G	369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	3	0	4	0	
G	370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0	
G	371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	33	0	100	46	0	33	88	
G	372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	0	0	0	6	0	0	25	
G	373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
G	374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0
G	375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0	0	9	0	0	38
G	376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0	0	6	0	0	25
G	377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	33	0	100	64	0	58	88
G	378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	0	0	0	9	0	4	25
G	379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE	33	0	100	39	0	33	63
G	380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT	33	50	0	12	0	8	25
G	381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR	67	50	100	58	0	50	88
G	382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0
G	383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0
G	384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0	3	0	4	0
G	385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0
G	386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	0	0	0	0	0	0	0
G	387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	0	0	0	15	0	8	38
G	388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0
G	389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0
G	390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	33	0	100	39	100	33	50
G	391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	33	0	100	39	100	33	50
G	392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	0	0	0	3	0	4	0
G	393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	0	0	3	0	4	0
G	394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0	0	0	0	0
G	395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	0	0	0	6	0	0	25
G	396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	0	0	0	3	0	0	13

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
G	397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	33	0	100	42	0	38	63	
G	398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	0	0	0	0	0	0	0	
G	399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	33	0	100	36	0	33	50	
G	400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	0	0	0	18	0	13	38	
G	401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	0	0	0	18	0	8	50	
G	402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	0	0	0	21	0	13	50	
G	403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	0	0	0	18	0	13	38	
G	404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	67	50	100	91	100	96	75	
G	405	G2-02 DO YOU INSPECT TRANSISTORS	67	50	100	91	100	96	75	
G	406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	67	50	100	85	100	83	88	
G	407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	67	50	100	94	100	96	88	
G	408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	67	50	100	94	100	96	88	TRANSISTORS
G	409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	67	50	100	91	100	96	75	
G	410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	67	50	100	88	100	96	63	
G	411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	0	0	0	39	100	38	38	
G	412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	0	0	0	33	100	29	38	
G	413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	0	0	0	52	100	50	50	
G	414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	0	0	0	24	100	21	25	
G	415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	67	50	100	91	100	92	88	
G	416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	67	50	100	97	100	100	88	
G	417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	33	0	100	70	100	67	75	
G	418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY	33	0	100	27	0	21	50	
G	419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR	67	50	100	64	0	58	88	
G	420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	0	0	0	21	0	17	38	
G	421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	33	50	0	15	0	13	25	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
G	422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	0	0	0	9	0	8	13	
G	423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	0	0	0	9	0	8	13	
G	424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	0	0	0	9	0	8	13	
G	425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	0	0	6	0	0	25	
G	426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0	6	0	0	25	
G	427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0	6	0	0	25	
G	428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	33	0	100	67	0	67	75	
G	429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	33	0	100	58	0	63	50	
G	430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	33	0	100	52	0	50	63	TRANSISTOR AMPLIFIERS
G	431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	33	0	100	64	0	63	75	
G	432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	33	0	100	61	0	63	63	
G	433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	33	0	100	52	0	46	75	
G	434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	33	0	100	52	0	50	63	
G	435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE	0	0	0	24	0	25	25	
G	436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	12	0	8	25	
G	437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE	0	0	0	24	0	25	25	
G	438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	9	0	4	25	
G	439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	0	0	0	15	0	13	25	
G	440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	9	0	4	25	
G	441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A	0	0	0	0	0	0	0	
G	442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	33	0	100	9	0	4	25	
G	443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	33	0	100	0	0	0	0	
G	444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	33	0	100	33	0	29	50	
G	445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	33	0	100	24	0	25	25	
G	446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	33	0	100	21	0	21	25	
G	447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE	0	0	0	3	0	4	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
G	448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE	0	0	0	3	0	4	0
G	449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE	0	0	0	0	0	0	0
G	450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE	33	0	100	3	0	4	0
G	451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT EQ] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0	0	0	0	0
G	452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	0	100	24	0	17	50
G	453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-	33	0	100	30	0	25	50
G	454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	0	100	27	0	21	50
G	455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	0	100	27	0	21	50
G	456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	0	100	30	0	25	50
G	457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	33	0	100	21	0	21	25
G	458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	33	0	100	27	0	21	50
G	459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	33	0	100	36	0	33	50
G	460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	33	0	100	33	0	29	50
G	461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	33	0	100	36	0	33	50
G	462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	33	0	100	33	0	29	50
G	463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	33	0	100	27	0	29	25
G	464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	33	0	100	21	0	21	25
G	465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	33	0	100	36	0	33	50

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
G	466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	33	0	100	29	0	29	13	
G	467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	33	0	100	29	0	29	13	
G	468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	33	0	100	29	0	29	13	
G	469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	33	0	100	29	0	29	13	
G	470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR	33	0	100	12	0	17	0	
G	471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	33	0	100	15	0	13	25	
G	472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	33	0	100	21	0	17	38	
G	473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	33	0	100	39	0	38	50	
G	474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	33	0	100	27	0	17	63	
G	475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	33	0	100	18	0	21	13	
G	476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	33	0	100	21	0	13	50	
H	477	H1-01 DO YOU USE OR REFER TO VARACTORS	33	0	100	29	100	21	25	
H	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	67	50	100	30	100	21	50	SOLID-STATE
H	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	67	50	100	61	0	58	75	SPECIAL PURPOSE
H	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	67	50	100	61	100	50	88	DEVICES
H	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	100	100	100	100	100	100	100	
H	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	100	100	100	100	100	100	100	
H	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	67	50	100	88	100	88	88	
H	484	H2-02 DO YOU INSPECT POWER SUPPLIES	67	50	100	94	100	100	75	
H	485	H2-03 DO YOU CLEAN POWER SUPPLIES	33	50	0	73	100	75	63	
H	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	67	50	100	94	100	96	88	POWER SUPPLIES
H	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	67	50	100	97	100	100	88	
H	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	67	50	100	94	100	96	88	
H	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	67	50	100	85	100	83	88	
H	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	67	50	100	82	100	79	88	
H	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	67	50	100	82	100	88	63	
H	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	67	50	100	85	100	88	75	
H	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	67	50	100	82	100	83	75	
H	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	67	50	100	64	100	71	38	
H	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	67	50	100	94	100	96	88	
H	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	67	50	100	88	100	92	75	
H	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	67	50	100	82	100	88	63	
H	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	33	0	100	76	100	75	75	
H	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	33	0	100	70	100	63	88	
H	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	33	0	100	64	100	58	75	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
H	501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	33	0	100	45	100	42	50	
H	502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	67	50	100	79	100	79	75	
H	503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	33	0	100	73	100	71	75	
H	504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	67	50	100	61	100	50	88	
H	505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	67	50	100	55	100	46	75	
H	506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	67	50	100	45	100	42	50	
H	507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	67	50	100	42	100	38	50	
H	508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	33	0	100	36	100	25	63	
H	509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	67	50	100	39	100	25	75	
H	510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	0	0	0	45	100	46	38	
H	511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	0	0	0	3	0	4	0	
H	512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	67	50	100	61	100	58	63	
H	513	H3-02 DO YOU INSPECT OSCILLATORS	33	0	100	58	100	58	50	
H	514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	67	50	100	55	100	50	63	
H	515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	33	0	100	52	100	46	63	OSCILLATORS
H	516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	33	0	100	39	100	29	63	
H	517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	33	0	100	61	100	58	63	
H	518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	33	0	100	48	100	42	63	
H	519	H3-08 DO YOU USE OR REFER TO FEEDBACK	33	0	100	52	100	50	50	
H	520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	33	0	100	36	100	33	38	
H	521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	67	50	100	39	100	33	50	
H	522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	67	50	100	42	100	33	63	
H	523	H3-12 DO YOU USE OR REFER TO DAMPING	67	50	100	29	100	21	25	
H	524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	67	50	100	39	100	33	50	
H	525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	33	0	100	21	100	13	38	
H	526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	33	50	0	12	100	13	0	
H	527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	33	50	0	12	100	13	0	
H	528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	0	0	0	12	100	13	0	
H	529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	33	0	100	36	100	33	38	
H	530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	33	0	100	45	100	46	38	
H	531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	33	0	100	39	100	33	50	
H	532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	12	100	8	13	
H	533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	33	0	100	18	0	17	25	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
M	534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	33	0	100	21	0	21	25	
M	535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	33	0	100	21	0	17	38	
M	536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	0	0	0	9	0	13	0	
M	537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	0	0	0	9	0	13	0	
M	538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	0	0	0	29	0	29	13	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	33	0	100	58	100	50	75	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	33	0	100	61	100	58	63	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	33	0	100	61	100	54	75	
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	33	0	100	55	100	50	63	MULTIVIBRATORS
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	33	0	100	64	100	58	75	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	33	0	100	58	100	50	75	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	33	0	100	48	100	42	63	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	33	0	100	52	100	42	75	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	33	0	100	33	100	33	25	
I	548	I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	33	0	100	45	100	33	75	
I	549	I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	33	0	100	33	100	29	38	
I	550	I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	29	100	29	0	
I	551	I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	33	0	100	52	100	46	63	
I	552	I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	33	0	100	55	100	46	75	
I	553	I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	33	0	100	55	100	46	75	
I	554	I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	0	0	0	29	100	29	0	
I	555	I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	33	0	100	39	100	29	63	
I	556	I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS	33	0	100	33	100	25	50	
I	557	I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	33	0	100	29	100	21	25	LIMITERS AND CLAMPERS
I	558	I2-04 DO YOU WORK WITH LIMITERS WITH BIAS	33	0	100	27	100	21	38	
I	559	I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS	33	0	100	36	100	25	63	
I	560	I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS	33	0	100	39	100	29	63	
I	561	I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	0	0	0	15	100	17	0	
I	562	I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	33	0	100	36	100	25	63	
I	563	I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	33	0	100	36	100	29	50	
I	564	I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	0	0	0	12	0	17	0	
I	565	I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	33	0	100	3	0	4	0	
I	566	I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	33	0	100	3	0	4	0	ELECTRON TUBES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
567	I3-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	33	0	100	3	0	4	0
568	I3-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	33	0	100	3	0	4	0
569	I3-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	33	0	100	3	0	4	0
570	I3-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	33	0	100	3	0	4	0
571	I3-07 DO YOU USE OR REFER TO CUTOFF	33	0	100	3	0	4	0
572	I3-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	0	0	0	0	0	0	0
573	I3-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	0	0	0	0	0	0	0
574	I3-10 DO YOU USE OR REFER TO TRANSIT TIME	0	0	0	0	0	0	0
575	I3-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	0	0	0	3	0	4	0
576	I3-12 DO YOU USE OR REFER TO SATURATION	33	0	100	3	0	4	0
577	I3-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	33	0	100	3	0	4	0
578	I3-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	0	0	0	0
579	I3-15 DO YOU USE OR REFER TO PLATE VOLTAGE	33	0	100	0	0	0	0
580	I3-16 DO YOU USE OR REFER TO PLATE CURRENT	33	0	100	0	0	0	0
581	I3-17 DO YOU USE OR REFER TO GRID VOLTAGE	33	0	100	0	0	0	0
582	I3-18 DO YOU USE OR REFER TO GRID CURRENT	33	0	100	0	0	0	0
583	I3-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	33	0	100	0	0	0	0
584	I3-20 DO YOU USE OR REFER TO CATHODE CURRENT	33	0	100	0	0	0	0
585	I3-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS	0	0	0	0	0	0	0
586	I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0	0	0
587	I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	0	0	0
588	I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	0	0	0	0	0	0
589	I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	0	0	0	0	0
590	I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	33	0	100	0	0	0	0
591	I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	0	0	0	0	0
592	I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	33	0	100	0	0	0	0
593	I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	0	0	0	0	0
594	I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	0	0	0	0	0	0	0
595	I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	0	0	0	0	0	0	0
596	I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	0	0	0	0	0
597	I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
I	598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	33	0	100	3	0	9	0	
I	599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	33	0	100	3	0	9	0	
I	600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	33	0	100	0	0	0	0	
I	601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	33	0	100	0	0	0	0	
I	602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	33	0	100	0	0	0	0	
I	603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	
I	604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	0	0	0	0	0	
I	605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	33	0	100	0	0	0	0	
I	606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	33	0	100	0	0	0	0	
I	607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE	0	0	0	0	0	0	0	
I	608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	0	0	0	0	0	0	0	
J	609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	
J	610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER	0	0	0	0	0	0	0	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
J	611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	0	0	
J	612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	0	0	0	0	
J	613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	
J	614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	
J	615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	0	0	0	
J	616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	33	0	100	0	0	0	0	
J	617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	33	0	100	0	0	0	0	SPECIAL PURPOSE ELECTRON TUBES
J	618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	0	
J	619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	0	0	0	0	
J	620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	0	0	0	0	
J	621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	0	0	0	0	
J	622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	0	0	0	0	0	0	0	
J	623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
J	624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	0	0	0	0	0	0	0	
J	625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	0	0	0	0	0	0	0	
J	626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	0	0	0	
J	627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	0	0	0	
J	628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	33	0	100	0	0	0	0	
J	629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	0	0	0	0	0	0	0	
J	630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	0	0	0	0	0	0	0	
J	631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	0	0	0	0	0	0	0	
J	632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	33	0	100	21	0	21	25	
J	633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	33	0	100	18	0	17	25	HETERODYNING, MODULATION, AND DEMODULATION
J	634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	33	0	100	21	0	21	25	
J	635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	33	0	100	3	0	4	0	
J	636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	33	0	100	3	0	4	0	
J	637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	33	0	100	15	0	17	13	
K	638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	33	0	100	0	0	0	0	
K	639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K	640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	AM SYSTEMS
K	641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K	642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K	643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	33	0	100	0	0	0	0	
K	644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K	645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	33	0	100	0	0	0	0	
K	646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	0	0	0	0	0	0	0	
K	647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	0	0	0	
K	648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	0	0	
K	649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	0	0	0	
K	650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	0	0	0	0	0	0	
K	651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0	0	
K	652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	0	0	0	
K	653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	33	0	100	0	0	0	0	
K	654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	33	0	100	0	0	0	0	
K	655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	33	0	100	0	0	0	0	
K	656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	33	0	100	0	0	0	0	
K	657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	33	0	100	0	0	0	0	
K	658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	0	0	
K	659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	33	0	100	0	0	0	0	
K	660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	0	0	0	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	33	0	100	0	0	0	0	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	33	0	100	0	0	0	0	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	33	0	100	0	0	0	0	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	33	0	100	0	0	0	0	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	33	0	100	0	0	0	0	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	FM SYSTEMS
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	33	0	100	0	0	0	0	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	33	0	100	0	0	0	0	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	33	0	100	0	0	0	0	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	33	0	100	0	0	0	0	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	33	0	100	0	0	0	0	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	33	0	100	0	0	0	0	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	33	0	100	0	0	0	0	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	33	0	100	0	0	0	0	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	33	0	100	0	0	0	0	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	33	0	100	0	0	0	0	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	33	0	100	0	0	0	0	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	33	0	100	0	0	0	0	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	33	0	100	0	0	0	0	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	33	0	100	0	0	0	0	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	67	50	100	64	0	63	75	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	100	100	100	79	100	75	88	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	67	50	100	67	100	63	75	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	67	50	100	67	100	58	88	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	100	100	100	79	100	75	88	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	67	50	100	64	100	58	75	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	100	100	100	76	100	75	75	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	100	100	100	61	100	58	63	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	67	50	100	70	100	67	75	

AD-A040 751 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
ELECTRONICS PRINCIPLES AVIONICS AEROSPACE GROUND EQUIPMENT (AGE--ETC(U)
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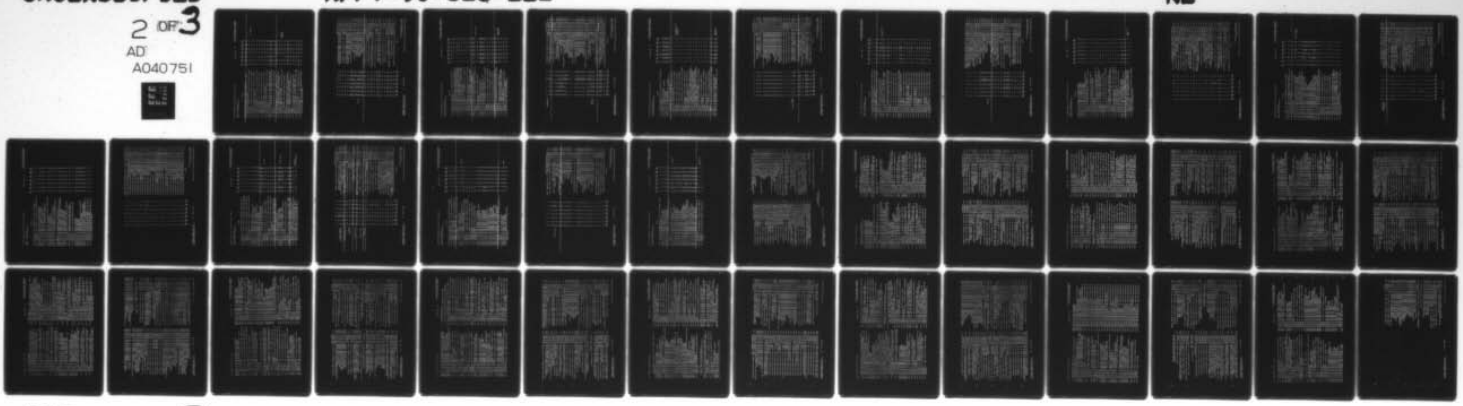

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
K	694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	67	50	100	98	100	92	63	
L	695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	100	100	100	85	100	88	75	
L	696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	33	50	0	76	100	79	63	LOGIC FUNCTIONS
L	697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	33	50	0	76	100	79	63	
L	698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	33	50	0	73	100	75	63	
L	699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	33	50	0	73	100	75	63	
L	700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	67	50	100	91	100	92	88	
L	701	K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	67	50	100	91	100	92	88	
L	702	K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	67	50	100	88	100	88	88	
L	703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	67	50	100	88	100	88	88	
L	704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	67	50	100	91	100	92	88	
L	705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	100	100	100	91	100	92	88	
L	706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	100	100	100	91	100	92	88	
L	707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	100	100	100	88	100	88	88	
L	708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC	33	50	0	58	100	50	75	
L	709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	33	50	0	39	100	33	50	BOOLEAN EQUATIONS
L	710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	33	50	0	21	100	21	13	
L	711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	33	50	0	42	100	33	63	
L	712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	100	100	100	67	100	58	88	
L	713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	67	50	100	98	100	38	75	
L	714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	67	50	100	98	100	38	75	
L	715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	67	50	100	92	100	33	63	
L	716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	67	50	100	29	100	25	13	
L	717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	100	100	100	69	100	54	88	
L	718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	33	50	0	39	100	38	38	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	67	50	100	45	100	38	63	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	67	50	100	55	100	50	63	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	67	50	100	61	100	54	75	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	67	50	100	58	100	50	75	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	67	50	100	61	100	54	75	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	100	100	100	58	100	50	75	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	100	100	100	64	100	54	88	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	100	100	100	61	100	54	75	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	100	100	100	45	100	46	38	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	100	100	100	45	100	46	38	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	33	0	100	64	100	54	88	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	67	50	100	55	100	58	38	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	67	50	100	55	100	58	38	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	33	50	0	48	100	46	50	
L 733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	100	100	100	82	100	79	88	
L 734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	100	100	100	79	100	79	75	
L 735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	100	100	100	76	100	75	75	
L 736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	67	50	100	85	100	83	88	
L 737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	67	50	100	82	100	79	88	COUNTERS
L 738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	33	50	0	64	100	63	63	
L 739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	67	100	0	70	100	63	88	
L 740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	67	50	100	58	0	54	75	
L 741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	67	50	100	85	100	83	88	
L 742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	100	100	100	79	100	75	88	
L 743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	67	50	100	55	100	54	50	
L 744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-	67	50	100	55	100	54	50	
L 745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	33	50	0	64	100	54	88	
L 746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	33	50	0	64	100	54	88	
L 747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	100	100	100	67	100	63	75	
L 748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	67	50	100	76	100	71	88	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
L 749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	67	50	100	64	100	63	63	
L 750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	0	0	0	48	100	50	38	
L 751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENT-	0	0	0	48	100	50	38	
L 752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE	0	0	0	55	100	54	50	
L 753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	0	0	0	45	100	50	25	
L 754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	0	36	0	33	50	
L 755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	0	0	0	42	100	38	50	
L 756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	0	0	0	52	100	46	63	
M 757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	67	50	100	70	100	75	50	
M 758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	33	0	100	55	100	58	38	
M 759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	67	50	100	45	100	46	38	TIMING CIRCUITS
M 760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	33	0	100	36	100	46	0	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	67	50	100	42	100	42	38	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	100	100	100	94	100	96	88	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	100	100	100	76	100	75	75	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	67	50	100	79	100	79	75	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	67	50	100	76	100	71	88	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	67	50	100	76	100	79	63	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	67	50	100	67	100	67	63	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	100	100	100	58	100	54	63	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	100	100	100	48	100	50	38	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	100	100	100	48	100	54	25	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL	100	100	100	45	100	46	38	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	67	50	100	45	100	46	38	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	67	50	100	39	100	46	13	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	67	50	100	36	100	38	25	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
M	775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	67	50	100	45	100	46	38	
M	776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	100	100	100	36	100	42	13	
M	777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	100	100	100	27	100	33	0	
M	778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	100	100	100	30	100	33	13	
M	779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR	67	50	100	42	100	42	38	
M	780	M3-02 DO YOU INSPECT MOTORS	67	50	100	33	100	38	13	
M	781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	33	0	100	24	100	25	13	MOTORS AND GENERATORS
M	782	M3-04 DO YOU OPERATE MOTORS	67	50	100	33	100	38	13	
M	783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	67	50	100	33	0	33	38	
M	784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	33	0	100	12	0	13	13	
M	785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	67	50	100	36	100	38	25	
M	786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	33	0	100	6	0	8	0	
M	787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	33	0	100	0	0	0	0	
M	788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	33	0	100	0	0	0	0	
M	789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	33	0	100	3	0	4	0	
M	790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	33	0	100	6	0	4	13	
M	791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	33	0	100	0	0	0	0	
M	792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	33	0	100	0	0	0	0	
M	793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	33	0	100	0	0	0	0	
M	794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	0	0	0	0	0	0	0	
M	795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	0	0	0	3	0	4	0	
M	796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	33	0	100	0	0	0	0	
M	797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	67	50	100	12	0	17	0	
M	798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	67	50	100	15	0	13	25	
M	799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	67	50	100	9	0	8	13	
M	800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	33	0	100	21	100	21	13	
M	801	M3-23 DO YOU INSPECT GENERATORS	67	50	100	30	100	33	13	
M	802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	0	0	0	24	100	25	13	
M	803	M3-25 DO YOU OPERATE GENERATORS	67	50	100	27	100	29	13	
M	804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	0	0	0	12	0	13	13	
M	805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	0	0	0	12	0	13	13	
M	806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	33	50	0	15	0	17	13	
M	807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	0	0	0	12	0	13	13	
M	808	M1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	33	0	100	91	100	92	88	
M	809	M1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	33	0	100	9	0	13	0	
M	810	M1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	33	0	100	6	0	8	0	METER MOVEMENTS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	33	0	100	9	0	13	0	
N 812	N1-05 DO YOU READ METER SCALES	67	50	100	86	100	88	88	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	67	50	100	27	100	29	13	
N 814	N1-07 DO YOU ZERO OHMMETERS	67	50	100	91	100	92	88	
N 815	N1-08 DO YOU ZERO AMMETERS	67	50	100	64	100	71	38	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	67	50	100	33	100	38	13	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	67	50	100	48	100	54	25	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	0	0	0	3	0	0	13	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	3	0	0	13	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	3	0	0	13	
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	3	0	0	13	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	3	0	0	13	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	3	0	0	13	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	0	0	0	
N 825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	0	0	0	0	0	0	0	
N 826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF	0	0	0	0	0	0	0	
N 827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE	0	0	0	3	0	0	13	
N 828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	0	0	0	3	0	0	13	
N 829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	
N 830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	0	0	0	0	0	
N 831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	0	0	0	0	0	
N 832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	0	0	0	0	0	
N 833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	0	0	0	6	0	4	13	
N 834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	100	100	100	61	100	58	63	
N 835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	67	50	100	27	0	33	13	
N 836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	100	100	100	58	100	54	63	WAVESHAPING CIRCUITS
N 837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	67	50	100	55	100	54	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	33	0	100	55	100	50	63	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	67	50	100	95	100	92	50	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	67	50	100	52	100	50	50	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	100	100	100	30	100	33	13	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT	67	50	100	12	100	8	13	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	67	50	100	55	100	54	50	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	67	50	100	39	100	92	25	
O	845	01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	
O	846	01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	33	50	0	0	0	0	0	
O	847	01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	33	50	0	0	0	0	0	
O	848	01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	SINGLE SIDEBAND
O	849	01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	SYSTEMS
O	850	01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	
O	851	01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	
O	852	01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	
O	853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	0	0	0	
O	854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	0	0	0	
O	855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	0	0	0	
O	856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	0	0	0	0	0	
O	857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	0	0	
O	858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	
O	859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	0	0	0	0	0	
O	860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	0	0	0	
O	861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	0	0	0	
O	862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0	0	0	0	0	0	
O	863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	0	0	0	0	0	
O	864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	0	0	0	
O	865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	0	0	0	
O	866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0	0	0	0	0	0	
O	867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	0	0	0	
O	868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	0	0	0	
O	869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0	0	
O	870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	0	0	0	
O	871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	0	0	0	
O	872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
0	873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	
0	874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	
0	875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	67	50	100	18	100	17	13	
0	876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	33	0	100	15	100	13	13	
0	877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	0	0	0	15	100	13	13	PULSE MODULATION SYSTEMS
0	878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	33	0	100	18	100	17	13	
0	879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	67	50	100	18	100	17	13	
0	880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	33	0	100	15	100	17	0	
0	881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	33	0	100	18	100	17	13	
0	882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	33	0	100	15	100	17	0	
0	883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	0	0	0	15	100	13	13	
0	884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	0	0	0	12	100	13	0	
0	885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	0	0	0	9	100	8	0	
0	886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	0	0	0	6	100	9	0	
0	887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	0	0	0	6	100	9	0	
0	888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	67	50	100	6	100	9	0	
0	889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	33	50	0	12	100	8	13	
0	890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	0	0	0	9	100	8	0	
0	891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	0	0	0	12	100	13	0	
0	892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	33	50	0	12	100	13	0	
0	893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	3	0	9	0	
0	894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	0	0	0	6	100	9	0	
0	895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	0	6	100	9	0	
0	896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	33	50	0	9	100	8	0	
0	897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	33	50	0	12	100	13	0	
0	898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	0	0	0	12	100	13	0	
0	899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	33	50	0	15	100	13	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
0	900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	33	50	0	12	100	13	0	
0	901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	0	12	100	13	0	
0	902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	33	0	100	9	100	8	0	
0	903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	67	50	100	18	100	17	13	
0	904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	33	0	100	18	100	17	13	
0	905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	67	50	100	18	100	17	13	
0	906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	67	50	100	18	100	17	13	
0	907	02-33 DO YOU USE OR REFER TO PEAK POWER	67	50	100	15	100	17	0	
0	908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	67	50	100	18	100	17	13	
0	909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	12	100	13	0	
0	910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	67	50	100	18	100	17	13	
0	911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	33	0	100	12	100	13	0	
0	912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	67	50	100	15	100	13	13	
0	913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	67	50	100	18	100	17	13	
0	914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	33	0	100	0	0	0	0	
0	915	03-02 DO YOU INSPECT ANTENNAS	33	0	100	0	0	0	0	
0	916	03-03 DO YOU CLEAN ANTENNAS	0	0	0	0	0	0	0	ANTENNAS
0	917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	33	0	100	0	0	0	0	
0	918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	33	0	100	0	0	0	0	
0	919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	33	0	100	0	0	0	0	
0	920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	33	0	100	0	0	0	0	
0	921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	33	0	100	0	0	0	0	
0	922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	33	0	100	0	0	0	0	
0	923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	0	0	0	
0	924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	0	0	0	
0	925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	0	0	0	
0	926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS	0	0	0	0	0	0	0	
0	927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS	0	0	0	0	0	0	0	
0	928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
0	929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	0	0	0	
0	930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	0	0	0	
0	931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0	0	0	
0	932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	0	0	0	
0	933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	0	0	0	
0	934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	0	0	0	
0	935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	
0	936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	
0	937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	
0	938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	
0	939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	0	0	0	
0	940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	0	0	0	
0	941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	33	0	100	0	0	0	0	
0	942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	0	0	0	
0	943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0	0	0	
0	944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR	0	0	0	0	0	0	0	
0	945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0	0	0	0	0	
0	946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0	0	0	0	0	
0	947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	0	0	0	
0	948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	0	0	0	0	0	0	0	
0	949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	
0	850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	33	0	100	0	0	0	0	
0	851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	0	0	0	0	0	0	0	
0	852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0	0	0	0	0	
P	953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS	33	0	100	0	0	0	0	
P	954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	TRANSMISSION LINES
P	955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0	0	0	0	0
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	0	0	0	0	0	0	0
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	0	0	0	0	0	0	0
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	0	0	0	0	0
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	33	0	100	0	0	0	0
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	33	0	100	0	0	0	0
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	33	0	100	0	0	0	0
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION	0	0	0	0	0	0	0
P 966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0	0	0	0	0
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	33	0	100	0	0	0	0
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH	0	0	0	0	0	0	0
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0	0	0	0	0	0
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	33	0	100	0	0	0	0
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	0	0	0
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	0	0	0
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF	33	0	100	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0	0	0	0	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	33	0	100	0	0	0	0	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	0	0	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	33	0	100	48	100	50	38	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	33	0	100	45	100	46	38	WAVEGUIDES AND CAVITY RESONATORS
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	15	100	13	13	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	33	0	100	33	0	33	38	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	33	0	100	45	100	46	38	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	33	0	100	39	100	38	38	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	39	100	38	38	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	12	0	13	13	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	12	0	13	13	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	33	0	100	15	0	13	25	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	6	0	8	0	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	33	0	100	9	0	13	0	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	33	0	100	24	100	17	38	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	33	0	100	21	100	17	25	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0	0	0	0	0	
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0	0	0	0	
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	0	0	0	
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0	
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0	
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS	0	0	0	0	0	0	0	
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35	0	0	0	0	0	0	0	
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	3	0	0	13	
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR	0	0	0	0	0	0	0	
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	9	100	4	13	
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	9	100	4	13	
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	6	100	0	13	
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	33	0	100	18	100	17	13	
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	6	0	8	0	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	6	0	8	0	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	33	0	100	9	0	8	13	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	3	0	4	0	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	0	0	0	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	3	0	0	13	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	6	0	8	0	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	6	0	4	13	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR	33	50	0	18	100	17	13	
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	0	0	
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	0	0	0
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	3	0	4	0
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	3	0	4	0
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	0	0
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	3	0	4	0
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	33	50	0	0	0	0	0
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	12	0	13	13
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	6	0	4	13
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	3	0	0	13
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	3	0	0	13
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	0	0
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	6	0	4	13
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	3	0	0	13
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	3	0	0	13
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	0	0	0
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	12	0	17	0
P1065	P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	3	0	4	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	9	0	8	13
P1067	P3-34 DO YOU TUNE MAGNETRONS	0	0	0	12	0	13	13
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	15	0	17	13
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	6	0	8	0
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	6	0	8	0
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0	0	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	0	0	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	0	0	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	0	0	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0	0	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	0	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	3	0	4	0
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0	0	3	0	4	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	3	0	4	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0	0	3	0	4	0
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	3	0	4	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	3	0	4	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	3	0	4	0
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	3	0	4	0
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	33	50	0	0	0	0	0
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	33	50	0	0	0	0	0
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	0	0	0
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	33	50	0	0	0	0	0
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	0	0	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	0	0
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	0	0
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	0	0
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	6	0	4	13	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0	
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	100	100	100	97	100	96	100	
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	100	100	100	97	100	96	100	
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	67	50	100	88	100	83	100	REGISTERS
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	67	50	100	88	100	83	100	
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	100	100	100	91	100	92	88	
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	100	100	100	91	100	92	88	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES	100	100	100	82	100	83	75	
Q1117	QZ-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	100	100	100	91	100	92	88	
Q1118	QZ-02 DO YOU USE OR REFER TO DELAY LINES	67	50	100	55	100	58	38	
Q1119	QZ-03 DO YOU USE OR REFER TO MAGNETIC CORES	33	50	0	67	100	67	63	
Q1120	QZ-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	33	50	0	88	100	88	88	STORAGE DEVICES
Q1121	QZ-05 DO YOU USE OR REFER TO MAGNETIC TAPES	33	50	0	92	100	50	13	
Q1122	QZ-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	67	50	100	69	100	58	75	
Q1123	QZ-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	67	50	100	67	0	63	88	
Q1124	QZ-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	0	0	0	98	100	96	50	
Q1125	QZ-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	67	50	100	55	100	54	50	
Q1126	QJ-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D)	100	100	100	97	100	100	88	
Q1127	QJ-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT	33	50	0	33	100	38	13	DIGITAL TO ANALOG CONVERTERS
Q1128	QJ-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A)	33	50	0	27	100	29	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	67	50	100	36	100	38	25	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	67	100	0	36	100	42	13	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	67	100	0	36	100	42	13	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	67	100	0	36	100	42	13	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	39	100	46	13	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER	33	0	100	33	100	38	13	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	67	100	0	39	100	46	13	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	67	100	0	39	100	46	13	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	67	100	0	42	100	46	25	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	67	100	0	42	100	46	25	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	0	0	0	33	100	42	0	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	0	0	0	0	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	67	50	100	45	100	42	50	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	67	50	100	39	100	38	38	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	67	50	100	45	100	42	50	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	100	100	100	76	100	71	88	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	100	100	100	82	100	79	88	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	100	100	100	91	100	96	75	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	100	100	100	91	100	92	88	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	67	100	0	52	100	54	38	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	33	50	0	36	100	38	25	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	0	0	0	21	100	21	13	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	0	0	0	6	100	4	0	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	9	100	8	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	0	0	0	6	100	4	0	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	9	100	8	0	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	15	100	17	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	12	100	8	13	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	15	100	13	13	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	15	100	13	13	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	67	100	0	0	0	0	0	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0	0	0	0	0	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0	0	0	0	0	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	0	0	0	INFRARED
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	0	0	0	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	33	50	0	0	0	0	0	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	67	100	0	0	0	0	0	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	33	50	0	0	0	0	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	67	100	0	0	0	0	0	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	33	50	0	0	0	0	0	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	0	0	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	0	0	0	0	0	0	0	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	0	0	0	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	33	50	0	0	0	0	0	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	33	50	0	0	0	0	0	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	0	0	0	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	33	50	0	0	0	0	0	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	0	0	0	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	0	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	0	0	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	LASERS
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE	33	50	0	9	0	8	13	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	0	0	0	6	0	8	0	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	0	0	0	3	0	9	0	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	33	50	0	3	0	9	0	DISPLAY TUBES
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	0	0	0	9	0	8	13	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	33	50	0	6	0	9	13	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	0	0	0	6	0	9	13	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0	6	0	9	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	Dy-TSk	SPC 014	SPC 016	SPC 017	SPC 018	SPC 019	SPC 020	SPC 021	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	0	3	0	4	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0	0	0	0	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	0	0	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0	3	0	4	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	67	50	100	61	100	63	50	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	67	50	100	55	100	54	50	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	67	50	100	67	100	67	63	PROGRAMMING
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	33	50	0	55	100	58	38	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	33	50	0	48	100	54	25	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	0	0	0	18	100	21	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	67	50	100	58	100	54	63	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	0	0	0	24	100	29	0	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	67	50	100	61	100	63	50	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	67	50	100	64	100	67	50	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	33	50	0	55	100	63	25	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	33	50	0	48	100	50	38	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	67	50	100	48	100	58	13	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	67	50	100	39	100	46	13	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	33	50	0	15	100	17	0	
U1249	U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	33	50	0	48	100	46	50	
U1250	U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	67	50	100	45	100	42	50	
U1251	U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	33	50	0	36	100	33	38	
U1252	U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	33	50	0	36	100	33	38	
U1253	U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	33	50	0	39	100	33	50	
U1254	U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	67	50	100	45	100	38	63	
U1255	U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	67	50	100	33	100	29	38	
U1256	U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	33	50	0	3	0	4	0	DB AND POWER RATIOS
U1257	U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	33	50	0	3	0	4	0	

UNITED STATES AIR FORCE
JOB INVENTORY

JOB INVENTORY FOR INTEGRATED AVIONICS (326X0/X1/X2)

A MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE

A 1 A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE A VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.
A 2 A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.
A 3 A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.
A 4 A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.
A 5 A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.
A 6 A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.
A 7 A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.
A 8 A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.
A 9 A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS A BASE).
A 10 A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.
A 11 A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.
A 12 A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.
A 13 A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.
A 14 A1-14 DO YOU SOLVE OR USE PROPORTIONS.
A 15 A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.
A 16 A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).
A 17 A2-03 DO YOU USE THE TERM OHM.
A 18 A2-04 DO YOU USE THE TERM ION.
A 19 A2-05 DO YOU USE THE TERM DYNE.
A 20 A2-06 DO YOU USE THE TERM AMPERE.
A 21 A2-07 DO YOU USE THE TERM NEUTRON.
A 22 A2-08 DO YOU USE THE TERM COULOMB.
A 23 A2-09 DO YOU USE THE TERM PROTON.
A 24 A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.
A 25 A3-02 DO YOU INSPECT RESISTORS.
A 26 A3-03 DO YOU CLEAN RESISTORS.
A 27 A3-04 DO YOU ADJUST RESISTORS.
A 28 A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.
A 29 A3-06 DO YOU REMOVE OR REPLACE RESISTORS.
A 30 A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.
A 31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.
A 32 A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR POTENTIOMETER.
A 33 A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY, FUSE, CONDUCTOR, LAMP OR SWITCH.
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.

B MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE

B 52 B1-01 DO YOU MEASURE RESISTANCE.
B 53 B1-02 DO YOU REPAIR AN OHMMETER.
B 54 B1-03 DO YOU MEASURE VOLTAGE.
B 55 B1-04 DO YOU REPAIR A VOLTMETER.
B 56 B1-05 DO YOU REPAIR AN AMMETER.
B 57 B1-06 DO YOU MEASURE CURRENT.
B 58 B1-07 DO YOU USE A MULTIMETER.
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.
B 60 B1-09 DO YOU READ SCHEMATICS.
B 61 B2-01 DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).
B 62 B2-02 DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.
B 63 B2-03 DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).
B 64 B2-04 DO YOU USE OR REFER THE TERM WAVE LENGTH.
B 65 B2-05 DO YOU USE OR REFER THE TERM FREQUENCY.
B 66 B2-06 DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.
B 67 B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.
B 68 B3-02 DO YOU INSPECT INDUCTORS.
B 69 B3-03 DO YOU CLEAN INDUCTORS.
B 70 B3-04 DO YOU ADJUST INDUCTORS.
B 71 B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.
B 72 B3-06 DO YOU USE OR REFER TO INDUCTANCE.
B 73 B3-07 DO YOU USE OR REFER TO HENRIES.
B 74 B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.
B 75 B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.
B 76 B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.
B 77 B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.
B 78 B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.
B 79 B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.
B 80 B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.
B 81 B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.
B 82 B3-16 DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.
B 83 B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.
B 84 B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.
B 85 B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.
B 86 B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.
B 87 B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.
B 88 B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.
B 89 B3-23 DO YOU WORK WITH POWER INDUCTORS.
B 90 B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.
B 91 B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.

C CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM

C 92 C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.
C 93 C1-02 DO YOU INSPECT CAPACITORS.
C 94 C1-03 DO YOU CLEAN CAPACITORS.
C 95 C1-04 DO YOU ADJUST CAPACITORS.
C 96 C1-05 DO YOU TEST CAPACITORS.
C 97 C1-06 DO YOU DISCHARGE CAPACITORS.
C 98 C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.
C 99 C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.
C100 C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.
C101 C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.
C102 C1-11 DO YOU USE OR REFER TO CAPACITANCE.
C103 C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT.
C104 C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.
C105 C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE.
C106 C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES.
C107 C1-16 THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.
C108 C1-17 THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.
C109 C1-18 THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.
C110 C1-19 THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.
C111 C1-20 DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.
C112 C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT.
C113 C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS.
C114 C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.
C115 C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF

CAPACITORS IN PARALLEL.
C116 C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.
C117 C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO.
C118 C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.
C119 C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY.
C120 C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE.
C121 C1-30 DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).
C122 C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.
C123 C1-32 DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).
C124 C1-33 DO YOU WORK WITH PAPER CAPACITORS (FIXED).
C125 C1-34 DO YOU WORK WITH MICA CAPACITORS (FIXED).
C126 C1-35 DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).
C127 C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.
C128 C2-01 DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.
C129 C2-02 DO YOU INSPECT TRANSFORMERS.
C130 C2-03 DO YOU CLEAN TRANSFORMERS.
C131 C2-04 DO YOU ADJUST TRANSFORMERS.
C132 C2-05 DO YOU TROUBLESHOOT TRANSFORMERS.
C133 C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.
C134 C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.
C135 C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).
C136 C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.
C137 C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.
C138 C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.
C139 C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.
C140 C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.
C141 C2-14 DO YOU WORK WITH AUTOTRANSFORMERS.
C142 C2-15 DO YOU WORK WITH POWER TRANSFORMERS.
C143 C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS.
C144 C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.
C145 C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.
C146 C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.
C147 C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.
C148 C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.
C149 C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO.
C150 C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO.
C151 C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C152 C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C153 C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C154 C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C155 C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C156 C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C157 C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS.
C159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.
C160 C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO.
C161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.
C162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.
C163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.
C164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.
C165 C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.
C166 C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.
C167 C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.
C168 C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.
C169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.
C170 C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.
C171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.
C172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.
C173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.
C174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.
C175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.

C176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.
C177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.
C178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.
C179 C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.
C180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.
C181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY.
C182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT.
C183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.
C184 C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.

D RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS

D185 D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.
D186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.
D187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.
D188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.
D189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.
D190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.
D191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.
D192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.
D193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.
D194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.
D195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.
D196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.
D197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.
D198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.
D199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.
D200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.
D201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.
D202 D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.
D203 D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.
D204 D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.
D205 D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS: SINE OF AN ANGLE = OPPOSITE SIDE DIVIDED BY HYPOTENUSE.
D206 D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.
D207 D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS.
D208 D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.
D209 D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.
D210 D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.
D211 D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.
D212 D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.
D213 D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.
D214 D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.
D215 D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.
D216 D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.
D217 D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.
D218 D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.
D219 D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.
D220 D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.
D221 D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.
D222 D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.
D223 D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.
D224 D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS.
D225 D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS.
D226 D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE.

D227 D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.
D228 D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT, OR PHASE ANGLES FOR RCL CIRCUITS.
D229 D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR TIME CONSTANTS.
D230 D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.
D231 D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.
D232 D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.
D233 D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC).
D234 D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.
D235 D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS.
D236 D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS.
D237 D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN A SPECIFIC TIME.
D238 D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS.
D239 D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.
D240 D3-02 DO YOU INSPECT FILTER CIRCUITS.
D241 D3-03 DO YOU CLEAN FILTER CIRCUITS.
D242 D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.
D243 D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.
D244 D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.
D245 D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.
D246 D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.
D247 D3-09 DO YOU WORK ON LOW PASS FILTERS.
D248 D3-10 DO YOU WORK ON HIGH PASS FILTERS.
D249 D3-11 DO YOU WORK ON BANDPASS FILTERS.
D251 D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER
D250 D3-12 DO YOU WORK ON BAND-REJECT FILTERS.
D252 D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.
D253 D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.
D254 D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.
D255 D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.
D256 D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.
D257 D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.
D258 D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.
D259 D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.
D260 D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS.

E COUPLING, SOLDERING, AND RELAYS

E261 E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.
E262 E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING.
E263 E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING.
E264 E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING.
E265 E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.
E266 E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.
E267 E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.
E268 E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.
E269 E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.
E270 E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.
E271 E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.
E272 E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.
E273 E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.
E274 E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.
E275 E2-03 DO YOU ADD FLUX TO CONNECTIONS.
E276 E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.
E277 E2-05 DO YOU STRIP INSULATION FROM WIRES.
E278 E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.
E279 E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.
E280 E2-08 DO YOU CUT WIRES.
E281 E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.
E282 E2-10 DO YOU TIN SOLDERING IRON TIPS.

E283 E2-11 DO YOU CLEAN SOLDERING IRON TIPS.
E284 E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.
E285 E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.
E286 E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.
E287 E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.
E288 E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.
E289 E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.
E290 E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.
E291 E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.
E292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS
E293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS
E294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS
E295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB
E296 E3-02 DO YOU ADJUST RELAYS
E297 E3-03 DO YOU CLEAN RELAYS
E298 E3-04 DO YOU INSPECT RELAYS
E299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS
E300 E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS
E301 E3-07 DO YOU TROUBLESHOOT RELAYS
E302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS
E303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS
E304 E3-10 DO YOU PERFORM TASKS ON RELAY CORES
E305 E3-11 DO YOU PERFORM TASKS ON RELAY COILS
E306 E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES
E307 E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS
E308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS
E309 E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS
E310 E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS
E311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS
E312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS
E313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE

F MICROPHONES, SPEAKERS, AND OSCILLOSCOPES

F314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES
F315 F1-02 DO YOU INSPECT MICROPHONES
F316 F1-03 DO YOU CLEAN MICROPHONES
F317 F1-04 DO YOU OPERATE MICROPHONES
F318 F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF MICROPHONES
F319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS
F320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES
F321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS
F322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES
F323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES
F324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES
F325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES
F326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES
F327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS
F328 F2-02 DO YOU INSPECT SPEAKERS
F329 F2-03 DO YOU CLEAN SPEAKERS
F330 F2-04 DO YOU OPERATE SPEAKERS
F331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS
F332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS
F333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS
F334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS
F335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES
F336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS
F337 F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS
F338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS
F339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS
F340 F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS
F341 F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES
F342 F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB
F343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS
F344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS
F345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS
F346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY
F347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME
F348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS
F349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES
F350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS
F351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE
F352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS
F353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE

G SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS

G354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB
G355 G1-02 DO YOU INSPECT DIODES
G356 G1-03 DO YOU REMOVE OR REPLACE DIODES
G357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT

G358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES
G359 G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE LIAS RESISTANCE
G360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES
G361 G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES
G362 G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE
G363 G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW
G364 G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE
G365 G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING
G366 G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS
G367 G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS
G368 G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538
G369 G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT
G370 G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT
G371 G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE
G372 G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT
G373 G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON
G374 G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON
G375 G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)
G376 G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)
G377 G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END
G378 G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON
G379 G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)
G380 G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)
G381 G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS
G382 G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS
G383 G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS
G384 G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS
G385 G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS
G386 G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS
G387 G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS
G388 G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS
G389 G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS
G390 G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL
G391 G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL
G392 G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS
G393 G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS
G394 G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS
G395 G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS
G396 G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL
G397 G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES
G398 G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS
G399 G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION
G400 G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS
G401 G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS
G402 G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS
G403 G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS
G404 G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.
G405 G2-02 DO YOU INSPECT TRANSISTORS
G406 G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS
G407 G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT
G408 G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS
G409 G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS
G410 G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC)

RESISTANCE MEASUREMENTS
G411 G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION
G412 G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION
G413 G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)
G414 G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR
G415 G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS
G416 G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC
G417 G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION
G418 G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)
G419 G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS
G420 G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES
G421 G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES
G422 G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS
G423 G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS
G424 G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS
G425 G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS
G426 G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS
G427 G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS
G428 G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB
G429 G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS
G430 G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS
G431 G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL
G432 G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS
G433 G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER
G434 G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS
G435 G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT
G436 G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT
G437 G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT
G438 G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT
G439 G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL
G440 G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL
G441 G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)
G442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR
G443 G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR
G444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION
G445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION
G446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION
G447 G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN
G448 G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN
G449 G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN
G450 G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)
G451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES
G452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION
G453 G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION
G454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION
G455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION
G456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION

G457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION
G458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION
G459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION
G460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION
G461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION
G462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION
G463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION
G464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS
G465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION
G466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS
G467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS
G468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION
G469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION
G470 G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION
G471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS
G472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS
G473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS
G474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS
G475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS
G476 G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS

H SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS

H477 H1-01 DO YOU USE OR REFER TO VARACTORS
H478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES
H479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)
H480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS
H481 H1-05 DO YOU USE OR REFER TO ZENER DIODES
H482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS
H483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES
H484 H2-02 DO YOU INSPECT POWER SUPPLIES
H485 H2-03 DO YOU CLEAN POWER SUPPLIES
H486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES
H487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL
H488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS
H489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES
H490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS
H491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS
H492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS
H493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS
H494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS
H495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE
H496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY
H497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE
H498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE
H499 H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE
H500 H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY
H501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE
H502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS
H503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE
H504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS
H505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS
H506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS
H507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS
H508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS
H509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS
H510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER
H511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER
H512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB
H513 H3-02 DO YOU INSPECT OSCILLATORS
H514 H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS
H515 H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS
H516 H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS
H517 H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL
H518 H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS
H519 H3-08 DO YOU USE OR REFER TO FEEDBACK
H520 H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)
H521 H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY
H522 H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY
H523 H3-12 DO YOU USE OR REFER TO DAMPING
H524 H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK
H525 H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT

H526 H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING
H527 H3-16 DO YOU USE OR REFER TO UNDER DAMPING
H528 H3-17 DO YOU USE OR REFER TO OVER DAMPING
H529 H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD
H530 H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD
H531 H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD
H532 H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD
H533 H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS
H534 H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS
H535 H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS
H536 H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS
H537 H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS
H538 H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS

I MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES

I539 I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB
I540 I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS
I541 I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS
I542 I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS
I543 I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS
I544 I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS
I545 I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS
I546 I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS
I547 I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS
I548 I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS
I549 I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS
I550 I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD
I551 I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS
I552 I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS
I553 I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS
I554 I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS
I555 I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB
I556 I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS
I557 I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS
I558 I2-04 DO YOU WORK WITH LIMITERS WITH BIAS
I559 I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS
I560 I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS
I561 I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS
I562 I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS
I563 I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS
I564 I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT
I565 I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES
I566 I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD
I567 I3-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES
I568 I3-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES
I569 I3-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES
I570 I3-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES
I571 I3-07 DO YOU USE OR REFER TO CUTOFF
I572 I3-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING
I573 I3-09 DO YOU USE OR REFER TO PEAK CURRENT RATING
I574 I3-10 DO YOU USE OR REFER TO TRANSIT TIME
I575 I3-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING
I576 I3-12 DO YOU USE OR REFER TO SATURATION
I577 I3-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE
I578 I3-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES
I579 I3-15 DO YOU USE OR REFER TO PLATE VOLTAGE
I580 I3-16 DO YOU USE OR REFER TO PLATE CURRENT
I581 I3-17 DO YOU USE OR REFER TO GRID VOLTAGE
I582 I3-18 DO YOU USE OR REFER TO GRID CURRENT
I583 I3-19 DO YOU USE OR REFER TO CATHODE VOLTAGE
I584 I3-20 DO YOU USE OR REFER TO CATHODE CURRENT
I585 I3-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)
I586 I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS
I587 I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS
I588 I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)
I589 I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES
I590 I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE
I591 I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE
I592 I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE
I593 I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES
I594 I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS

I595 I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS
I596 I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF
I597 I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION
I598 I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN
I599 I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY
I600 I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I601 I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I602 I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I603 I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I604 I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE
I605 I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION
I606 I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS
I607 I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON
I608 I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS

J ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,

J609 J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB
J610 J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS
J611 J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS
J612 J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS
J613 J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS
J614 J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS
J615 J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER
J616 J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)
J617 J2-02 DO YOU WORK WITH CATHODE-RAY TUBES
J618 J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES
J619 J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED
J620 J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS
J621 J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED
J622 J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)
J623 J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)
J624 J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)
J625 J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS
J626 J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS
J627 J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS
J628 J2-13 DO YOU USE OR REFER TO PERSISTENCE
J629 J2-14 DO YOU USE OR REFER TO DECAY TIMES
J630 J2-15 DO YOU USE OR REFER TO FLUORESCENCE
J631 J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE
J632 J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
J633 J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS
J634 J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS
J635 J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS
J636 J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS
J637 J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS

K AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS

K638 K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
K639 K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS
K640 K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS
K641 K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS
K642 K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS
K643 K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS
K644 K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS
K645 K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS
K646 K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS
K647 K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS
K648 K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS
K649 K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS
K650 K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS
K651 K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS
K652 K1-15 DO YOU PERFORM TASKS ON DETECTORS
K653 K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE
K654 K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS
K655 K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS

K656 K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS
K657 K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS
K658 K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION
K659 K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION
K660 K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION
K661 K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE
K662 K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS
K663 K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS
K664 K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS
K665 K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS
K666 K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
K667 K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS
K668 K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS
K669 K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS
K670 K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS
K671 K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS
K672 K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS
K673 K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS
K674 K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS
K675 K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS
K676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)
K677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS
K678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS
K679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS
K680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS
K681 K2-16 DO YOU PERFORM TASKS ON LIMITERS
K682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS
K683 K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS
K684 K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS
K685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS
K686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS
K687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS
K688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS
K689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS
K690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS
K691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM
K692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD
K693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD
K694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM

L LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS

L695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS
L696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES
L697 L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES
L698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS
L699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES
L700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES
L701 K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES
L702 K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS
L703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS
L704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES
L705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES
L706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES
L707 L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES
L708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS
L709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS
L710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS
L711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS
L712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES
L713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS
L714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA
L715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES
L716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS
L717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE
L718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS
L719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER

LOGIC DIAGRAMS
L720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS
L721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS
L722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS
L723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS
L724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS
L725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS
L726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES
L727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS
L728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS
L729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS
L730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS
L731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS
L732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS
L733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB
L734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS
L735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS
L736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS
L737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS
L738 L3-06 DO YOU USE OR REFER TO RING COUNTERS
L739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS
L740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS
L741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS
L742 L3-10 DO YOU USE OR REFER TO UP CLOCKS
L743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS
L744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS
L745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS
L746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS
L747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER
L748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS
L749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS
L750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS
L751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS
L752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS
L753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS
L754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS
L755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES
L756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT

M TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS

M757 M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS
M758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS
M759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK
M760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK
M761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS
M762 M1-06 DO YOU USE OR REFER TO RISE TIME
M763 M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME
M764 M1-08 DO YOU USE OR REFER TO SWEEP TIME
M765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS
M766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS
M767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS
M768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS
M769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB
M770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS
M771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS
M772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS
M773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS
M774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS
M775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE
M776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH
M777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH
M778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS
M779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING

WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS
M780 M3-02 DO YOU INSPECT MOTORS
M781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS
M782 M3-04 DO YOU OPERATE MOTORS
M783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS
M784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS
M785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS
M786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS
M787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS
M788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES
M789 M3-11 DO YOU PERFORM ANY TASKS ON ROTORS
M790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES
M791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS
M792 M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS
M793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES
M794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR
M795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR
M796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS
M797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS
M798 M3-20 DO YOU WORK WITH INDUCTION MOTORS
M799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS
M800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS
M801 M3-23 DO YOU INSPECT GENERATORS
M802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS
M803 M3-25 DO YOU OPERATE GENERATORS
M804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS
M805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS
M806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS
M807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS

N METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS

N808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB
N809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS
N810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS
N811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS
N812 N1-05 DO YOU READ METER SCALES
N813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS
N814 N1-07 DO YOU ZERO OHMMETERS
N815 N1-08 DO YOU ZERO AMMETERS
N816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS
N817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)
N818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB
N819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS
N825 N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS
N826 N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS
N827 N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS
N828 N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS
N829 N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS
N830 N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS
N831 N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS
N832 N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS
N833 N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS
N834 N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB
N835 N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS
N836 N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)
N837 N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)
N838 N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)
N839 N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS
N840 N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS
N841 N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT
N842 N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION
N843 N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS
N844 N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS

0 SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS

0845 01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB
0846 01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS
0847 01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS
0848 01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS
0849 01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS
0850 01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS
0851 01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS
0852 01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS
0853 01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS
0854 01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS
0855 01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS
0856 01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS
0857 01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS
0858 01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS
0859 01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS
0860 01-16 DO YOU PERFORM TASKS ON SSB MIXERS
0861 01-17 DO YOU PERFORM TASKS ON SSB DRIVERS
0862 01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS
0863 01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS
0864 01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS
0865 01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS
0866 01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS
0867 01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES
0868 01-24 DO YOU USE OR REFER TO SELECTIVE FADING
0869 01-25 DO YOU USE OR REFER TO PEAK POWER
0870 01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY
0871 01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS
0872 01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS
0873 01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS
0874 01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS
0875 02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB
0876 02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS
0877 02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS
0878 02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS
0879 02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS
0880 02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS
0881 02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS
0882 02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS
0883 02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS
0884 02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS
0885 02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS
0886 02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS
0887 02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS
0888 02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM
0889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES
0890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES
0891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS
0892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS
0893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS
0894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS
0895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES
0896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS
0897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS
0898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS
0899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS
0900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS
0901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS
0902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES
0903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)
0904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)
0905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)
0906 02-32 DO YOU USE OR REFER TO PULSE SHAPE
0907 02-33 DO YOU USE OR REFER TO PEAK POWER
0908 02-34 DO YOU USE OR REFER TO AVERAGE POWER
0909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)
0910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)

0911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS
0912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS
0913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS
0914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB
0915 03-02 DO YOU INSPECT ANTENNAS
0916 03-03 DO YOU CLEAN ANTENNAS
0917 03-04 DO YOU PHYSICALLY ALIGN ANTENNAS
0918 03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS
0919 03-06 DO YOU TROUBLESHOOT TO ANTENNAS
0920 03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS
0921 03-08 DO YOU REMOVE OR INSTALL ANTENNAS
0922 03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS
0923 03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES
0924 03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES
0925 03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS
0926 03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR
0927 03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR
0928 03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR
0929 03-16 DO YOU WORK WITH HERTZ ANTENNAS
0930 03-17 DO YOU WORK WITH MARCONI ANTENNAS
0931 03-18 DO YOU WORK WITH BROADSIDE ARRAYS
0932 03-19 DO YOU WORK WITH END-FIRE ARRAYS
0933 03-20 DO YOU WORK WITH CARDIOID ARRAYS
0934 03-21 DO YOU WORK WITH COLLINEAR ARRAYS
0935 03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS
0936 03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS
0937 03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS
0938 03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS
0939 03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION
0940 03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD
0941 03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED
0942 03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED
0943 03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON
0944 03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS
0945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS
0946 03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS
0947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS
0948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS
0949 03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS
0850 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS
0851 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY
0852 03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS

P TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS

P953 P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES
P954 P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES
P955 P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES
P956 P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES
P957 P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES
P958 P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES
P959 P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES
P960 P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES
P961 P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES
P962 P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES
P963 P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES
P964 P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES
P965 P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)
P966 P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS
P967 P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS
P968 P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF

TRANSMISSION LINES
P969 P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES
P970 P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS
P971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS
P972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING
P973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA
P974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES
P975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES
P976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES
P977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES
P978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES
P979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES
P980 P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES
P981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES
P982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES
P983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING
P984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB
P985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS
P986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS
P987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS
P988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS
P989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS
P990 P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS
P991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS
P992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES
P993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS
P994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS
P995 P2-12 DO YOU REMOVE OR INSTALL E BENDS
P996 P2-13 DO YOU REMOVE OR INSTALL H BENDS
P997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS
P998 P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS
P999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS
P000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS
P001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS
P002 P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES
P003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES
P004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES
P005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES
P006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES
P007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS
P008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS
P009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS
P010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY
P011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE
P012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF
P013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION
P014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES
P015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES
P016 P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES
P017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES
P018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P022 P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P023 P2-90 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P024 P2-91 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P025 P2-92 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P026 P2-93 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY

RESONATORS YOU WORK WITH
P027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P028 P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING
P030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING
P031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING
P032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING
P033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS
P034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS
P035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE
P036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME
P037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE
P038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY
P039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION
P040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING
P041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS
P042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS
P043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS
P044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)
P045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS
P046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS
P047 P3-14 DO YOU WORK WITH MAGNETRONS
P048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT
P049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT
P050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY
P051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY
P052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT
P053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT
P054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT
P055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS
P056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS
P057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS
P058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS
P059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS
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Q111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS
Q112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS
Q113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS
Q114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS
Q115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS
Q116 Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED
Q117 Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB
Q118 Q2-02 DO YOU USE OR REFER TO DELAY LINES
Q119 Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES
Q120 Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS
Q121 Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES
Q122 Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS
Q123 Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS
Q124 Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS
Q125 Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES
Q126 Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS
Q127 Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES
Q128 Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS
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Q135 Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS
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R141 R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS
R142 R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS
R143 R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS
R144 R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES
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S149 S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB
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S152 S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS
S153 S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES
S154 S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS
S155 S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION
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S157 S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION
S158 S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION

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T159 T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS
T160 T1-02 DO YOU INSPECT INFRARED SYSTEMS
T161 T1-03 DO YOU CLEAN INFRARED SYSTEMS
T162 T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS
T163 T1-05 DO YOU OPERATE INFRARED SYSTEMS
T164 T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS
T165 T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS
T166 T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS
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T169 T1-11 DO YOU USE OR REFER TO FAR REGION
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T171 T1-13 DO YOU USE OR REFER TO NEAR REGION
T172 T1-14 DO YOU USE OR REFER TO MICRON
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T176 T1-18 DO YOU USE OR REFER TO SCATTERING
T177 T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO
T178 T1-20 DO YOU PERFORM TASKS ON BLITZ
T179 T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS
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T181 T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES
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T183 T1-25 DO YOU PERFORM TASKS ON FILTERS
T184 T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS
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T187 T2-02 DO YOU INSPECT LASER SYSTEMS
T188 T2-03 DO YOU CLEAN LASER SYSTEMS
T189 T2-04 DO YOU OPERATE LASER SYSTEMS
T190 T2-05 DO YOU OPERATE LASER SYSTEMS
T191 T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS
T192 T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS
T193 T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS
T194 T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS
T195 T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS
T196 T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)
T197 T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS
T198 T2-13 DO YOU USE OR REFER TO GROUND STATE
T199 T2-14 DO YOU USE OR REFER TO EXCITED STATE
T200 T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION
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T202 T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION
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T205 T2-20 DO YOU USE OR REFER TO INVERSION LEVEL
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T228 T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST
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U236 U1-03 DO YOU USE OR REFER TO PROGRAMS
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U242 U1-09 DO YOU USE OR REFER TO DATA WORDS
U243 U1-10 DO YOU USE OR REFER TO ADDRESS WORDS
U244 U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS
U245 U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION
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U248 U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING
U249 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES
U250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES
U251 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS
U252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS
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U254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES
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U257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS

AD-A040 751 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
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SUPPLEMENTARY

INFORMATION

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered) Corrected

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: AFPT 90-326-222	2. GOVT ACCESSION NO.: AD A040751
3. RECIPIENT'S CATALOG NUMBER: 1 of 4	
4. TITLE (and Subtitle): Electronics Principles Avionics Aerospace Ground Equipment (AGE) Career Ladder AFSCs 326X0A, B, C, D	5. TYPE OF REPORT & PERIOD COVERED: FINAL May 76 - August 76
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Thomas J. O'Connor, Guy B. Cole	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB TX 78236	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: N/A
11. CONTROLLING OFFICE NAME AND ADDRESS: SAME AS ITEM 9	12. REPORT DATE: 27 December 1976
	13. NUMBER OF PAGES: 192
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Electronic principles
Basic electronics
Avionics
Electronic equipment
Electronic technicians
Electronics
Air Force training
Teaching methods
Training

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report summarizes the results of the administration of the Electronics Principles survey to airmen assigned to the Avionics Aerospace Ground Equipment (AGE) specialties, including 326X0A, Manually Operated Avionics AGE; 326X0B, Automatic Avionics AGE; 326X0C, F/RF-4 Peculiar AGE, and 326X0D, A-7D Avionics AGE. The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.

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UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

A040 751

This specialty has the following functions:

Inspects, troubleshoots, repairs, modifies, calibrates and certifies avionics aerospace ground equipment and supervises avionics aerospace ground equipment activities. Analyzes and isolates avionics aerospace ground equipment malfunctions. Inspects and evaluates components of avionics aerospace ground equipment.